# X9SCV-Q
# X9SCV-QV4

## USER'S MANUAL

Revision 1.0a

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Manual Revision 1.0a

Release Date: September 8, 2011

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# Preface

## About This Manual

This manual is written for system integrators, PC technicians and knowledgeable PC users. It provides information for the installation and use of the SUPERO® X9SCV-Q motherboard product series. This product is intended to be professionally installed and serviced by a technician.

## About This Motherboard

The X9SCV-Q motherboard series is a value-driven product aimed at users who demand a reduced-cost, low-power motherboard for PC or storage server applications.

The X9SCV-Q motherboard series features an Intel® "Sandy Bridge-M" CPU on a G2 socket. They also offer many features, including two SO-DIMM support, 4 SATA 2.0 ports, 2 SATA 3.0 ports, an on-board VGA, 2 HDMI ports, and an LVDS header on the X9SCV-QV4. This enables the X9SCV-Q motherboard series to deliver cost-effective performance in a small form-factor package.

## Manual Organization

**Chapter 1** describes the features, specifications and performance of the mainboard and provides detailed information about the chipset.

**Chapter 2** provides hardware installation instructions. Read this chapter when installing the processor, memory modules and other hardware components into the system. If you encounter any problems, see **Chapter 3**, which describes troubleshooting procedures for video, memory and system setup stored in the CMOS. **Chapter 4** includes an introduction to the BIOS and provides detailed information on running the CMOS Setup utility.

**Appendix A** provides BIOS Error Beep Codes.

**Appendix B** lists Driver Installation Instructions.

**Appendix C** provides the UEFI BIOS Recovery Instructions.

## Conventions Used in the Manual:

Special attention should be given to the following symbols for proper installation and to prevent damage done to the components or injury to yourself:

**Danger/Caution:** Instructions to be strictly followed to prevent catastrophic system failure or to avoid bodily injury

**Warning:** Critical information to prevent damage to the components or data loss.

**Important:** Important information given to ensure proper system installation or to relay safety precautions.

**Note:** Additional Information given to differentiate various models or provides information for correct system setup.

# Contacting Supermicro

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## Notes

# Chapter 1

# Introduction

## 1-1 Overview

### Checklist

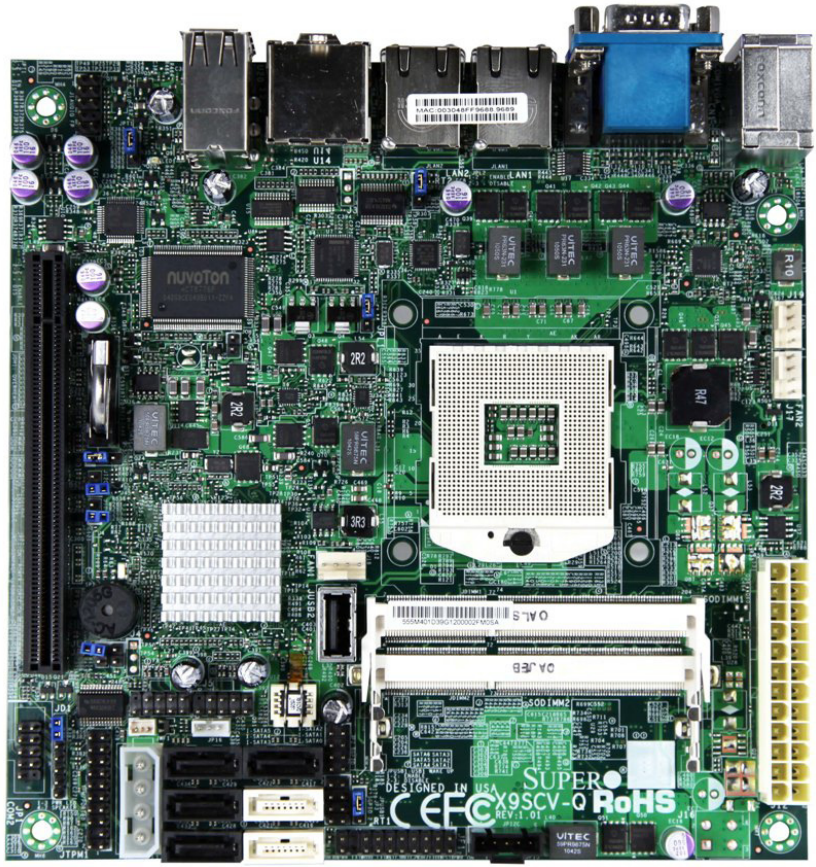
Congratulations on purchasing your computer motherboard from an acknowledged leader in the industry. Supermicro boards are designed with the utmost attention to detail and to provide you with the highest standards in quality and performance.

Please check that the following items have all been included with your motherboard. If anything listed here is damaged or missing, contact your retailer.

All the following items are included in the retail box only.

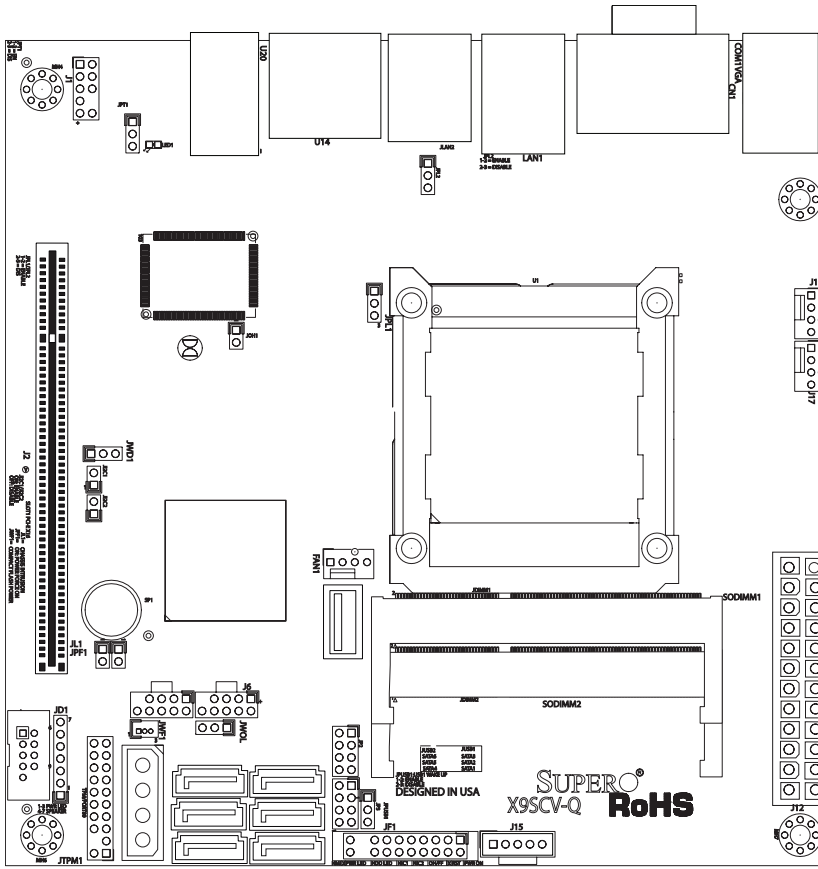
- One (1) Supermicro Mainboard
- Two (2) SATA cables
- One (1) I/O shield
- One (1) Supermicro CD containing drivers and utilities
- One (1) User's/BIOS Manual

## SUPER X9SCV-Q Image




**Note**: All graphics and images shown in this manual were based upon the latest PCB Revision available at the time of publishing of the manual. The motherboard you've received may or may not look exactly the same as the image shown in this manual.

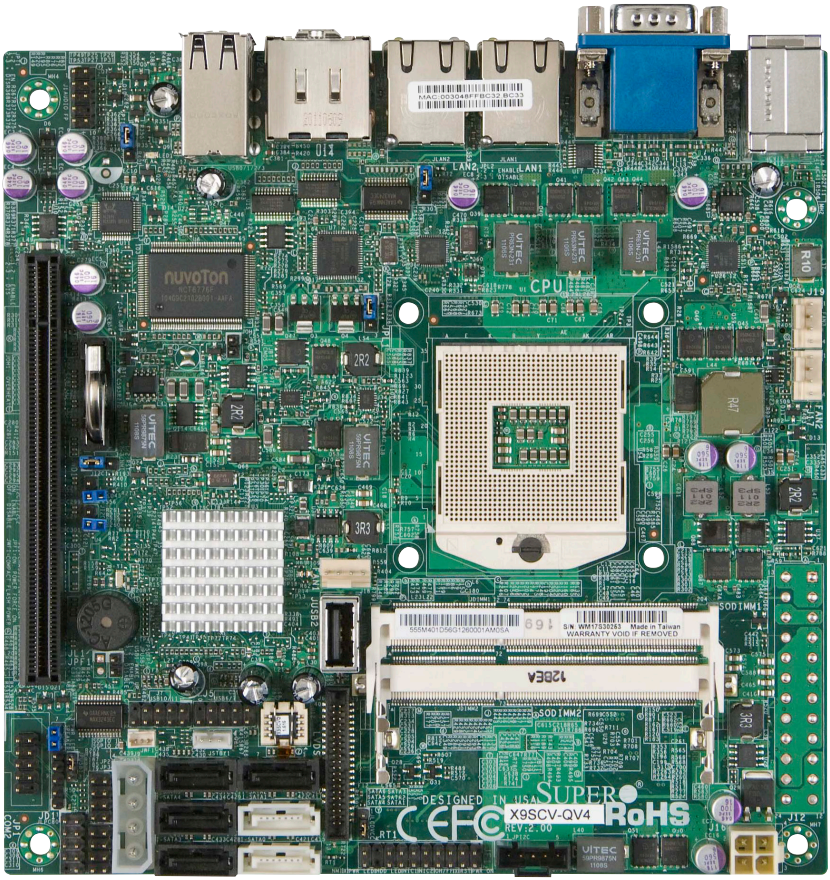
## X9SCV-Q Layout




Important Notes to the User

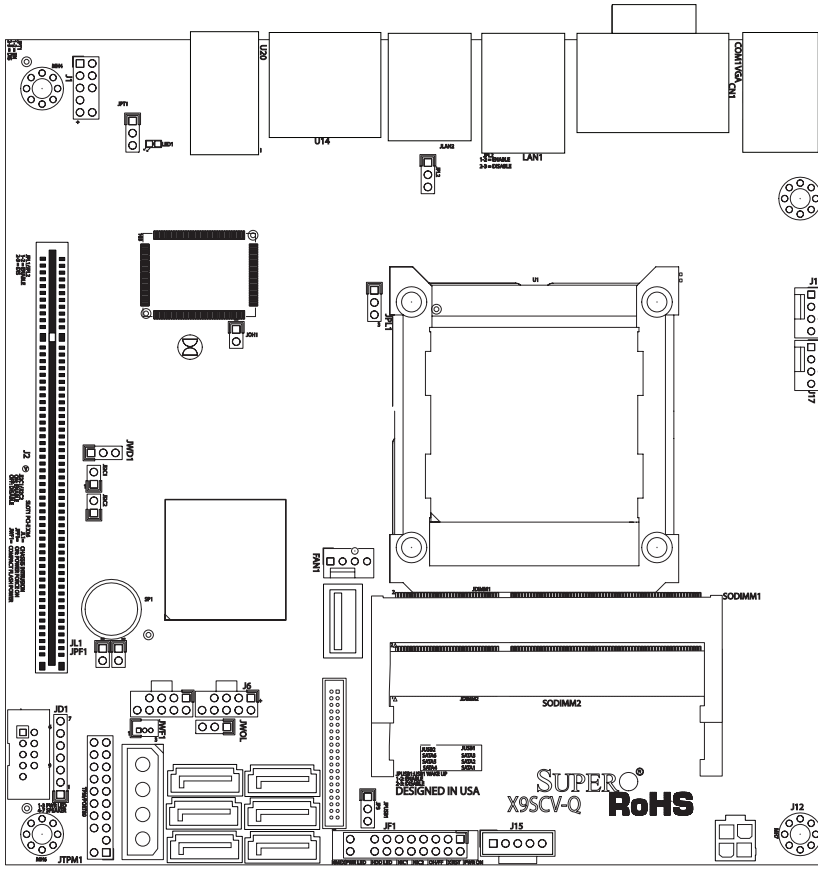
- Jumpers not indicated are for testing only.
- See Chapter 2 for detailed information on jumpers, I/O ports and JF1 front panel connections.
- "□" indicates the location of "Pin 1".

## SUPER® X9SCV-QV4 Image




**Note**: All graphics and images shown in this manual were based upon the latest PCB Revision available at the time of publishing of the manual. The motherboard you've received may or may not look exactly the same as the image shown in this manual.

## X9SCV-QV4 Motherboard Layout

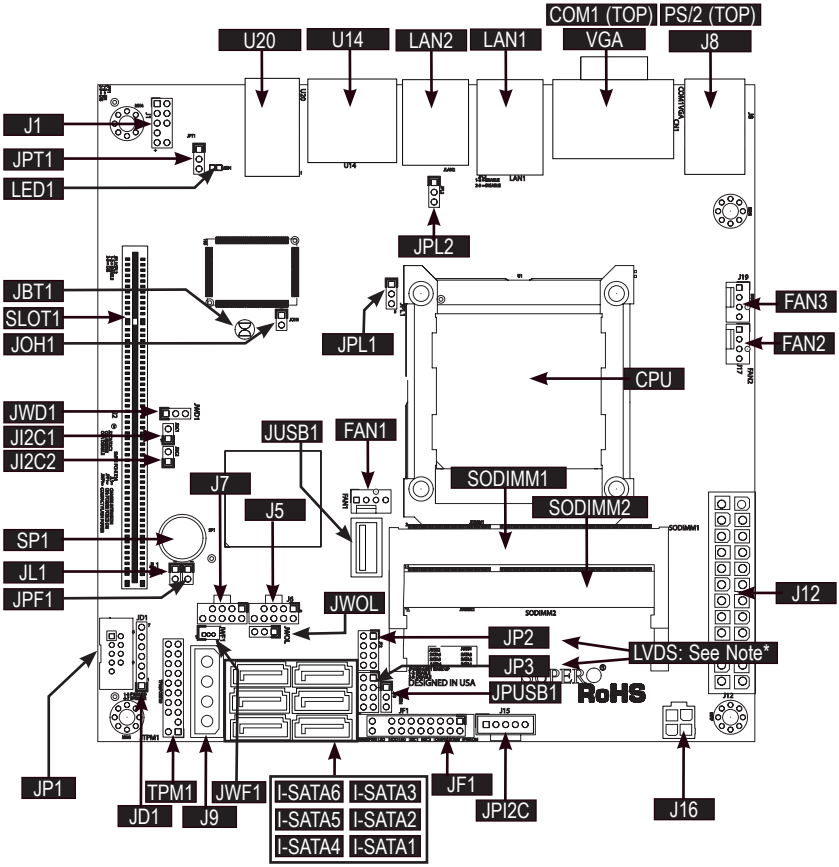



Important Notes to the User

- Jumpers not indicated are for testing only.
- See Chapter 2 for detailed information on jumpers, I/O ports and JF1 front panel connections.
- "□" indicates the location of "Pin 1".

## X9SCV-Q / X9SCV-QV4 Quick Reference

(not drawn to scale)




Note*: On the X9SCV-QV4 motherboard, JP2 & JP3 are replaced with an LVDS header.

## Jumper Descriptions

| Jumper | Description | Default Setting |
|---|---|---|
| JBT1 | CMOS Clear | (See Chapter 2) |
| JWD1 | Watch Dog Timer | Pins 1-2 (Reset) |
| JI2C1/JI2C2 | SMB to PCI Slots | (See Chapter 2) |
| JPF1 | Power Force On | Open (Disabled) |
| JPL1/JPL2 | LAN1/LAN2 Enable | Pins 1-2 (Enabled) |
| JPUSB1 | USB Wake-up | Pins 1-2 (Enabled) |
| JWOL | Wake On LAN | Pins 1-2 (Enabled) |
| JPT1 | Trusted Platform Module (TPM) Enable | Pins 1-2 (Enabled) |

## Ports and Connectors

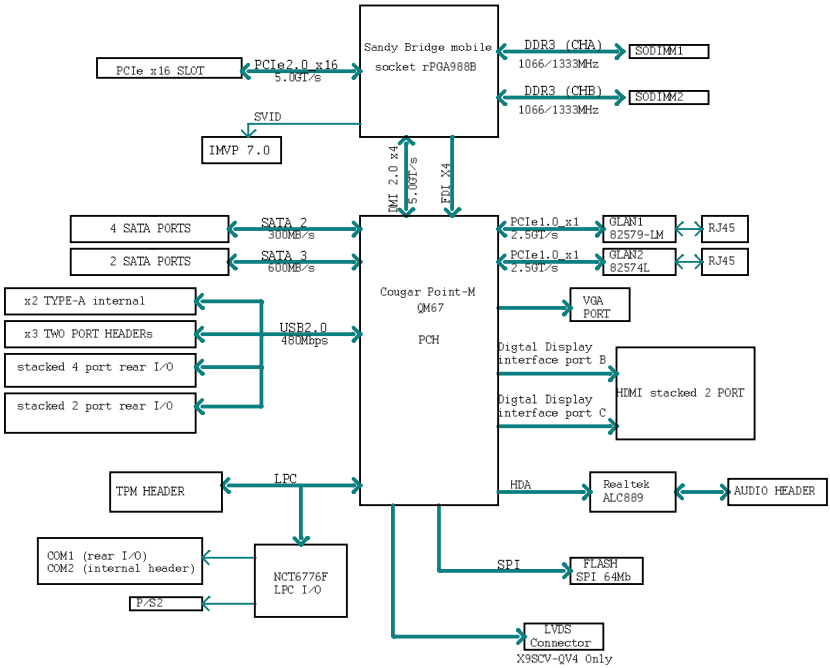
| Connectors/LED | Description |
|---|---|
| J1 | Front Panel Audio Header |
| LED1 | Power LED |
| SLOT1 | PCI-E x16 Gen 2 Slot |
| JOH1 | Overheat LED |
| SP1 | Onboard Speaker/Buzzer |
| JD1 | Power LED/Speaker Header |
| TPM1 | TPM Header |
| J9 | 4-pin 12V Power Source for internal Hard Drive/DVD Drive |
| JWF1 | DOM Power Connector |
| I-SATA1~I-SATA6 | SATA Connectors (White connectors: SATA 3, Black: SATA 2) |
| JF1 | Front Panel Control Header |
| J16 | 4-Pin ATX Power Connector (X9SCV-QV4 Only) |
| J12 | 24-Pin ATX Power Connector (X9SCV-Q Only) |
| FAN2, FAN3, FAN1 | CPU Fan, System Fan and Auxilliary Fan Headers |
| JL1 | Chassic Intrusion Header |
| PS/2 | PS/2 Mouse and Keyboard Combo Back Panel Connector |
| J8, U20 | USB4/5, USB0~3 Back Panel Connectors |
| COM1, JP1 (COM2) | COM1 Back Panel Serial Port, COM2 Internal Serial Header |
| VGA | VGA Back Panel Port |
| LAN1/LAN2 | LAN1/LAN2 Back Panel Ports |
| U14 | HDMI1 (Top), HDMI2 Back Panel Ports |
| JPI2C | JPI2C, PWR supply (I2C) System Management Bus |
| JUSB1 | USB12 (Type A Internal USB Ports) |
| J7, J5 | USB10/11, USB6/7 Internal USB Headers |
| JP2, JP3 or LVDS | X9SCV-Q: SGPIO 1, SGPIO 2, Serial General Purpose I/O headers<br>X9SCV-QV4: LVDS header |
| SODIMM1/SODIMM2 | SODIMM Memory Sockets |
| CPU | CPU / Processor |

## Motherboard Features

| | | |
|---|---|---|
| **CPU** | Single Intel® Sandy Bridge-M CPU (Socket G2) | |
| **Memory** | Two (2) SO-DIMM slots support up to 16 GB of DDR3, un-buffered, 1066/1333 MHz, non-ECC SO-DIMM memory | |
| | Supports dual-channel memory bus | |
| | **DIMM sizes** | |
| | SO-DIMM | 1 GB, 2 GB, 4 GB and 8GB |
| **Chipset** | Intel® QM67 (3.9W) | |
| **Expansion Slots** | One (1) PCI-E x 16, Gen 2 Slot | |
| **Graphics** | Intel (Integrated) | |
| **Network Connections** | Two (2): One (1) Intel 82579LM and One (1) Intel 82574L | |
| | Two (2) RJ-45 Rear IO Panel Connectors with Link and Activity LEDs | |
| **I/O Devices** | **SATA Connections** | |
| | SATA 3.0 Ports | Two (2) (SATA 1/2) |
| | | RAID 0, 1 Support |
| | SATA 2.0 Ports | Four (4) (SATA 3~6) |
| | | RAID 0, 1, 5, 10 |
| | **USB Devices** | |
| | Six (6) USB ports on the rear I/O panel (USB 0~5) | |
| | Five (5) USB connectors for front access USB 12 (Type A) and USB6/7, USB10/11 (USB headers). | |
| | **HDMI Ports** | |
| | Two (2) Back panel HDMI ports | |
| | **LVDS Header** | |
| | One (1) LVDS Header (X9SCV-QV4 Only) | |
| | **Graphics** | |
| | One (1) Back panel VGA port | |
| | **Audio Devices** | |
| | One (1) Front Audio Mic/Headphone Header | |
| | **Keyboard/Mouse** | |
| | Combination PS/2 Keyboard/Mouse port on the I/O backpanel | |
| | **Serial (COM) Ports** | |
| | Two (2) Fast UART 16550 connections: one 9-pin RS-232 port (Backpanel COM1 port) and one header (COM2) | |

| | |
|---|---|
| | **Super I/O** |
| | Winbond Super I/O NCT6776F |
| **BIOS** | 8 MB SPI AMI BIOS® SM Flash BIOS |
| | Play and Plug, ACPI 1.0/2.0/3.0, USB Keyboard and SMBIOS 2.3 |
| **Power** | ACPI/ACPM Power Management |
| | Main Switch Override Mechanism |
| | Suspend-To-RAM (STR) |
| | One (1) Disk-On-Module (DOM) Power Connector |
| | Power-on mode for AC power recovery |
| **PC Health Monitoring** | **CPU Monitoring** |
| | Onboard voltage monitors for CPU core, +3.3V, +5V, +12V, +3.3V Stdby, +5V Stdby, VBAT, Chipset |
| | Tachometer Monitoring |
| | CPU & chassis environment Monitoring |
| | CPU Thermal Trip support |
| | Thermal Monitor 2 (TM2) support |
| | **Fan Control** |
| | Fan status monitoring with firmware 4-pin (Pulse Width Modulation) fan speed control |
| | Low noise fan speed control |
| **System Management** | PECI (Platform Environment Configuration Interface) 2.0 support |
| | System resource alert via Supero Doctor III |
| | SuperoDoctor III, Watch Dog, NMI |
| | Chassis Intrusion header and detection |
| **CD Utilities** | BIOS flash upgrade utility |
| | Drivers and software for Intel® QM67 Express chipset utilities |
| **Other** | ROHS 6/6 (Full Compliance, Lead Free) |
| | One (1) TPM Header |
| **Dimensions** | Mini-ITX form factor (6.7" x 6.7") |

X9SCV-Q Motherboard Series
BLOCK DIAGRAM R2.00




## X9SCV-Q Motherboard Series Block Diagram

**Note:** This is a general block diagram. Please see the Motherboard Features pages for details on the features of the motherboard.

## 1-2 Chipset Overview

The X9SCV-Q Motherboard Series supports a single Intel® "Sandy Bridge-M" processor in a G2 Socket. Built upon the functionality and the capability of the Intel QM67 Express chipset, the motherboard provides substantial enhancement to system performance and storage capability for high performance platforms in a compact package.

The Intel® QM67 Express chipset is part of the mobile Intel 6 series Chipset family, with a single-chip architecture. Among its features are

- 3.9W Power Consumption
- Intel® vPro™ Technology
- Intel Anti-Theft Technology
- Intel Active Management Technology
- PCI Express 2.0 Interface (up to 5.0 GT/s)
- SATA Controller (up to 6G/s)

For more information regarding the Intel QM67 Express chipset, please visit Intel's website at:

http://www.intel.com

or at:

http://www.intel.com/products/notebook/chipsets/ec-qm67/ec-qm67-overview.htm

# 1-3 PC Health Monitoring

This section describes the PC health monitoring features of the X9SCV-Q Motherboard Series. These motherboards have an onboard System Hardware Monitor chip that supports PC health monitoring.

## Recovery from AC Power Loss

BIOS provides a setting for you to determine how the system will respond when AC power is lost and then restored to the system. You can choose for the system to remain powered off (in which case you must hit the power switch to turn it back on) or for it to automatically return to a power on state. See the Power Lost Control setting in the BIOS chapter of this manual to change this setting. The default setting is **Last State**.

## Onboard Voltage Monitoring

The onboard voltage monitor will scan the following voltages continuously: CPU core, +3.3V, +5V, +/-12V, +3.3V Stdby, +5V Stdby, VBAT, Memory, Chipset. Once a voltage becomes unstable, it will give a warning or send an error message to the screen. The User can adjust the voltage thresholds to define the sensitivity of the voltage monitor by using SD III.

## Fan Status Monitor with Software

The PC health monitor can check the RPM status of the cooling fans via Supero Doctor III.

## 1-4 Power Configuration Settings

This section describes features of your motherboard that deal with power and power settings.

### Slow Blinking LED for Suspend-State Indicator

When the CPU goes into a suspend state, the chassis power LED will start blinking to indicate that the CPU is in suspend mode. When the user presses any key, the CPU will wake up and the LED will automatically stop blinking and remain on.

### BIOS Support for USB Keyboard

If the USB keyboard is the only keyboard in the system, it will function like a normal keyboard during system boot-up.

### Main Switch Override Mechanism

When an ATX power supply is used, the power button can function as a system suspend button. When the user presses the power button, the system will enter a Soft Off state. The monitor will be suspended and the hard drive will spin down. Pressing the power button again will cause the whole system to wake up. During the SoftOff state, the ATX power supply provides power to keep the required circuitry in the system "alive." In case the system malfunctions and you want to turn off the power, just press and hold the power button for 4 seconds. The power will turn off and no power will be provided to the motherboard.

## 1-5 Power Supply

As with all computer products, a stable power source is necessary for proper and reliable operation. It is even more important for processors that have high CPU clock rates of 1 GHz and faster.

The SUPER® X9SCV-Q Motherboard Series accommodates 12V ATX power supplies. Although most power supplies generally meet the specifications required by the CPU, some are inadequate. A 2-Amp of current supply on a 5V Standby rail is strongly recommended.

## 1-6 Super I/O

The Super I/O provides two high-speed, 16550 compatible serial communication ports (UARTs). Each UART includes a 16-byte send/receive FIFO, a programmable baud rate generator, complete modem control capability and a processor interrupt system. Both UARTs provide legacy speed with baud rate of up to 115.2 Kbps as well as an advanced speed with baud rates of 250 K, 500 K, or 1 Mb/s, which support higher speed modems.

The Super I/O provides functions that comply with ACPI (Advanced Configuration and Power Interface), which includes support of legacy and ACPI power management through a SMI or SCI function pin. It also features auto power management to reduce power consumption.

# Chapter 2

# Installation

## 2-1 Static-Sensitive Devices

Electrostatic-Discharge (ESD) can damage electronic components. To prevent damage to your system board, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

### Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the board from the antistatic bag.
- Handle the board by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the motherboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the motherboard.
- Use only the correct type of onboard CMOS battery. Do not install the onboard upside down battery to avoid possible explosion.

### Unpacking

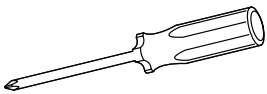
The motherboard is shipped in antistatic packaging to avoid static damage. When unpacking the board, make sure the person handling it is static protected.

## 2-2 Motherboard Installation

All motherboards have standard mounting holes to fit different types of chassis. Make sure that the locations of all the mounting holes for both motherboard and chassis match. Although a chassis may have both plastic and metal mounting fasteners, metal ones are highly recommended because they ground the motherboard to the chassis. Make sure that the metal standoffs click in or are screwed in tightly. Then use a screwdriver to secure the motherboard onto the motherboard tray.

**Caution**: Some components are very close to the mounting holes. Please take precautionary measures to prevent damage to these components when installing the motherboard to the chassis.

### Tools Needed



Philips Screwdriver

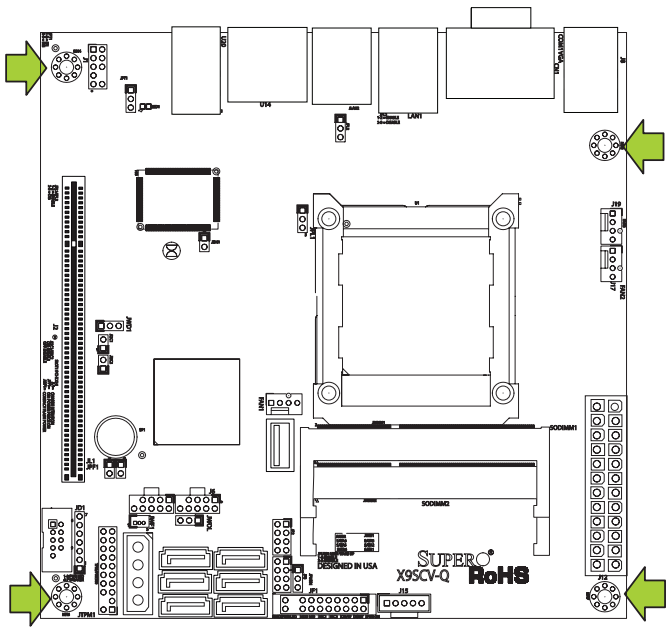
Pan head screws (4 pieces)

Stand Offs (4 pieces)
(Only if needed)

**Note:** The above items are not provided with this motherboard.

### Location of Mounting Holes

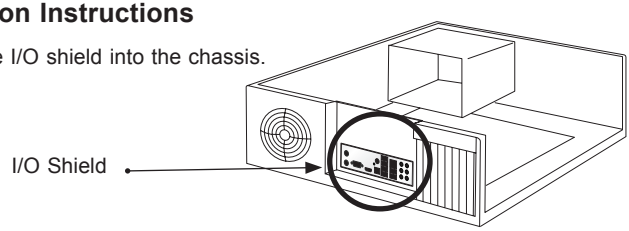
There are four (4) mounting holes on the X9SCV-Q motherboard series.



**Caution:** To avoid damaging the motherboard and its components, please do not use a force greater than 8 lb/inch on each mounting screw during motherboard installation.

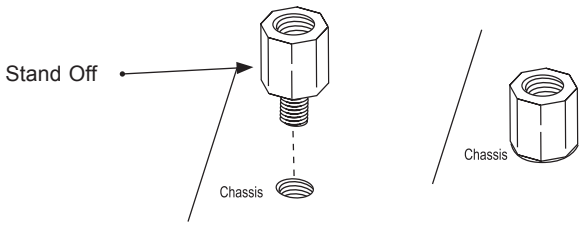
## Installation Instructions

**1** Install the I/O shield into the chassis.



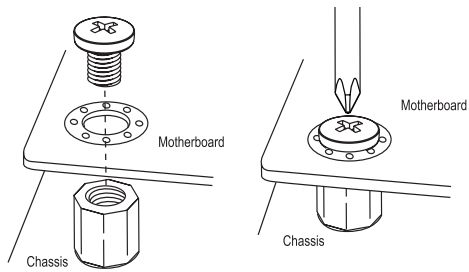

**2** Locate the mounting holes on the motherboard. Refer to the layout on the previous page for mounting hole locations.

**3** Locate the matching mounting holes on the chassis. Install standoffs in the chassis as needed. Align the mounting holes on the motherboard against the mounting holes on the chassis.




**4** Install the motherboard into the chassis carefully to avoid damage to motherboard components.

**5** Insert a Pan head #6 screw into a mounting hole on the motherboard and its matching mounting hole on the chassis, using the Philips screwdriver.




**6** Repeat Step 4 to insert #6 screws to all mounting holes.

**7** Make sure that the motherboard is securely placed on the chassis.

## 2-3 System Memory

***CAUTION***

Exercise extreme care when installing or removing DIMM modules to prevent any possible damage.

**Note**: Check the Supermicro website for a list of memory modules that have been validated with the X9SCV-Q motherboard series.

### How to Install SO DIMMs

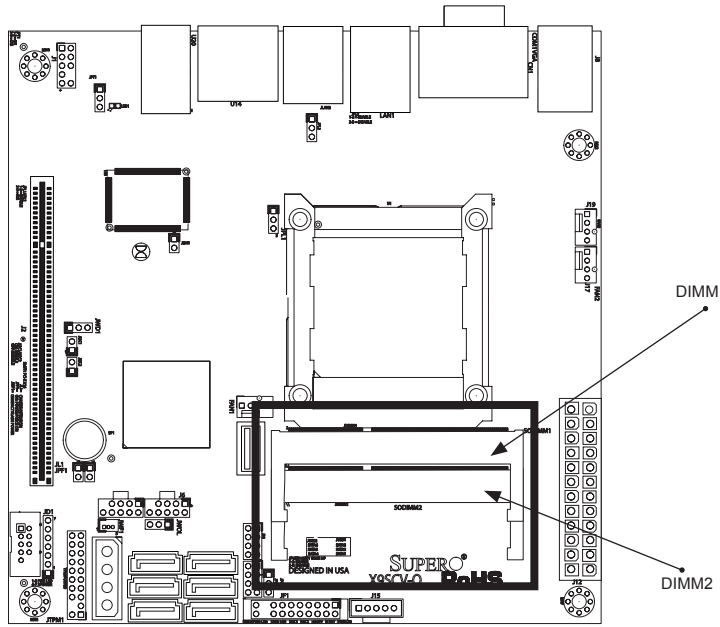
1. Insert the desired number of SO DIMMs into the memory slots, starting with DIMM1, then DIMM2. Pay attention to the notch along the bottom of the module to prevent incorrect DIMM module installation.

2. Insert each DIMM module at an angle vertically and snap it into place. Repeat step 1 to install DIMM2 if needed. See instructions on the next page.

### Memory Support

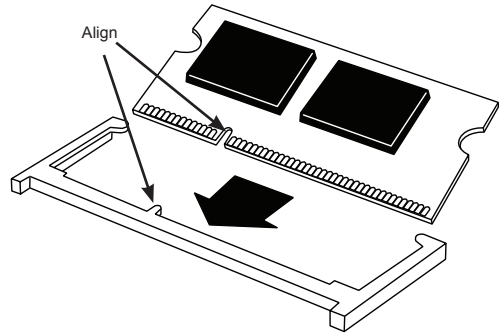
The X9SCV-Q Motherboard Series supports up to 16GB of unbuffered Non-ECC DDR3 SODIMMs (1066/1333 MHz in 2 SODIMM slots).

**Installing and Removing DIMMs**

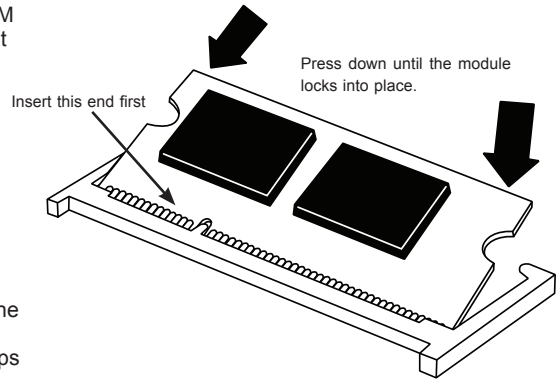


## The SO DIMM Socket

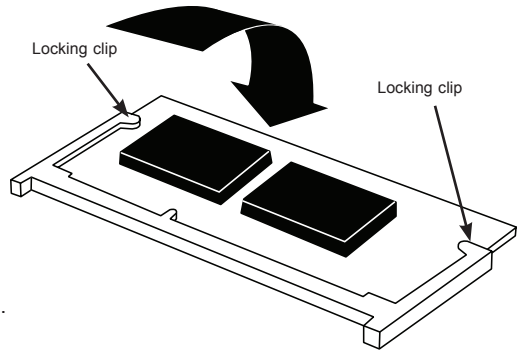
**1** Position the SO DIMM module's bottom key so it aligns with the receptive point on the slot.




**2** Insert the SO DIMM module vertically at about a 45 degree angle.




**3** Press down until the module locks into place. The side clips will automatically secure the SO DIMM module, locking it into place.

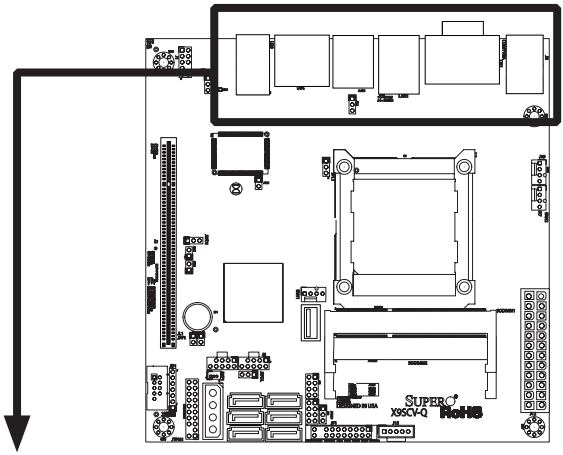



**4** **To Remove:**
Use your thumbs to gently push the side clips near both ends away from the module. This should release it from the slot. Pull the SO DIMM module upwards.

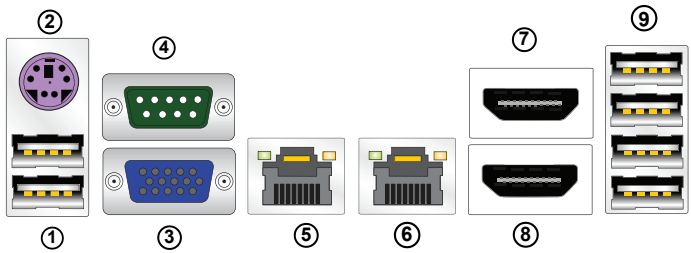
## 2-4 Connectors/I/O Ports

The I/O ports are color coded in conformance with the PC 99 specification. See the figure below for the colors and locations of the various I/O ports.

### Back Panel Connectors and I/O Ports



### I/O Port Locations and Definitions




| |
|---|
| 1. USB 4/5 |
| 2. PS/2 Keyboard/Mouse |
| 3. VGA Port |
| 4. COM 1 Port |
| 5. LAN 1 |
| 6. LAN 2 |
| 7. HDMI 1 |
| 8. HDMI 2 |
| 9. USB 0~3 |

**Back Panel Connectors**

### ATX PS/2 Keyboard/Mouse Ports

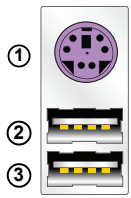
The ATX PS/2 keyboard/PS/2 mouse port is located next to the Back Panel USB Ports 0/1 on the motherboard. See the table at right for pin definitions.

| PS/2 KB/Mouse Pin Definitions (JF1) | |
|---|---|
| Pin# | Definition |
| 1 | KB Data |
| 2 | MS Data |
| 3 | Ground |
| 4 | Vcc |
| 5 | KB CLK |
| 6 | MS CLK |

**Note:**

This motherboard offers three Keyboard/Mouse connection options as shown in the graphic below.

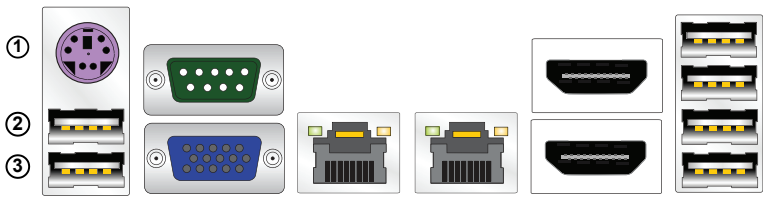
- **1.** Connect a keyboard cable or a mouse cable to the PS2 KB/Mouse port.
- **2.** Plug in a Y cable that connects to a KB cable and a mouse cable on other end to USB Port 0.
- **3.** Plug in a Y cable that connects to a KB cable and a mouse cable on other end to USB Port 1.



① **Keyboard/Mouse**
(For a keyboard cable or Mouse cable)

② **Back Panel USB (2.0)#8**
(For a Y cable that connects to a KB cable and a Mouse Cable)

③ **Back Panel USB (2.0)#9**
(For a Y cable that connects to a KB cable and a Mouse Cable)



**Back Panel Connectors**

### Universal Serial Bus (USB)

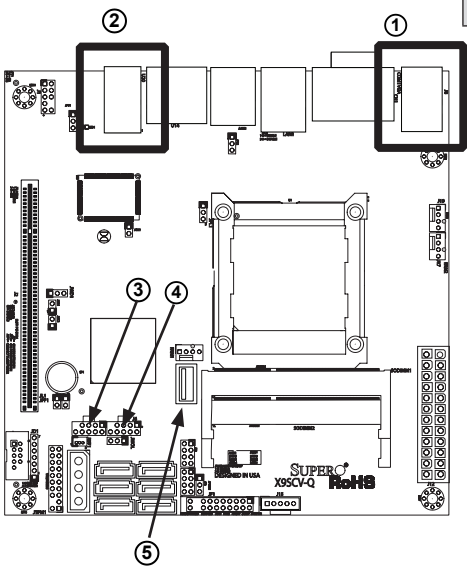
Six Universal Serial Bus ports (USB 0~5) are located on the I/O backpanel. Additionally, one Type A Internal USB port (USB 12) and 4 USB ports (USB 6/7, 10/11) on 2 headers are also located on the motherboard to provide front chassis access. (Cables are not included). See the tables on the right for pin definitions.

**Back Panel USB 1/2/3/4, Type A USB 10 Pin Definitions**

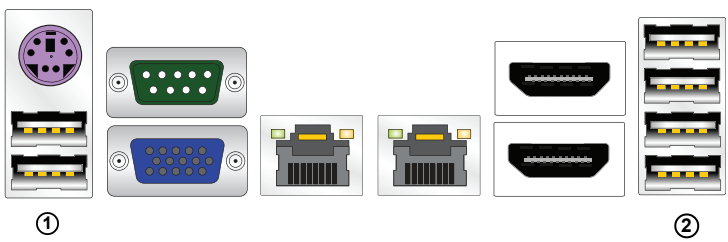
| Pin# | Definition | Pin# | Definition |
|---|---|---|---|
| 1 | +5V | 5 | +5V |
| 2 | USB_PN | 6 | USB_PN |
| 3 | USB_PP | 7 | USB_PP |
| 4 | Ground | 8 | Ground |

**Front Panel USB 5/6/7/8/9 Pin Definitions**

| Pin # | Definition | Pin # | Definition |
|---|---|---|---|
| 1 | +5V | 6 | +5V |
| 2 | USB_PN | 7 | USB_PN |
| 3 | USB_PP | 8 | USB_PP |
| 4 | Ground | 9 | Ground |
| 5 | NA | 10 | Key |




1. Backpanel USB 4/5
2. Backpanel USB 0~3
3. USB 10/11 header
4. USB 6/7 header
5. USB 12 Type A header



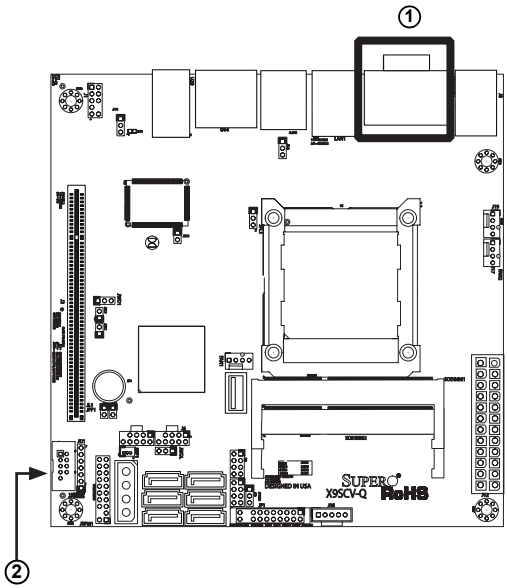

**Back Panel Connectors**

### Serial Ports

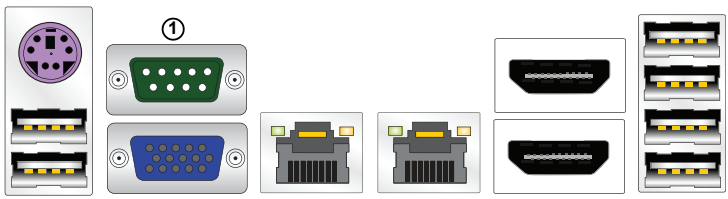
Two COM connections (COM1, COM2) are located on the motherboard. COM1 is located on the back I/O panel. A COM2 header is located near the PCI-E slot to provide an additional onboard serial port. See the table on the right for pin definitions.

**Serial Ports-COM1/COM2/COM3/COM4 Pin Definitions**

| Pin # | Definition | Pin # | Definition |
|---|---|---|---|
| 1 | DCD | 6 | DSR |
| 2 | RXD | 7 | RTS |
| 3 | TXD | 8 | CTS |
| 4 | DTR | 9 | RI |
| 5 | Ground | 10 | N/A |




1 (Backpanel) COM1
2 COM2 header

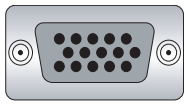



**Back Panel Connectors**

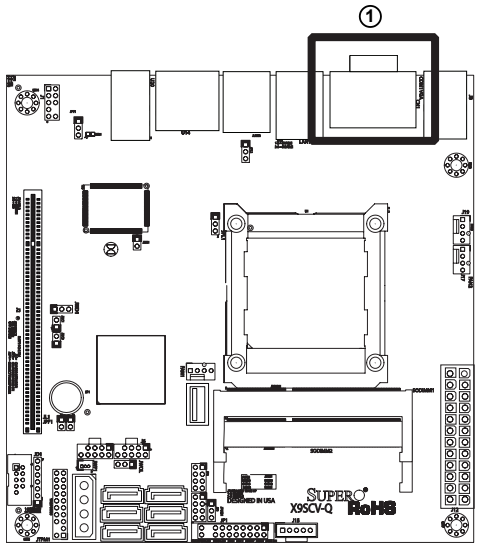
### VGA Connector

A VGA connector is located below the COM1 Port on the I/O back panel. This connector is used to provide video display. Refer to the board layout below for the location.

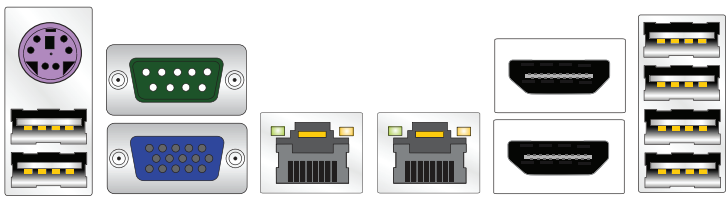
| VGA Port/Connector Pin Definitions | | | |
|---|---|---|---|
| Pin # | Definition | Pin # | Definition |
| 1 | Red Video | 9 | +5V DC |
| 2 | Green Video | 10 | Ground (Vsync, DDC) |
| 3 | Blue Video | 11 | Reserved |
| 4 | Reserved | 12 | $I^2C$ Data |
| 5 | Ground | 13 | H Sync |
| 6 | Red Return | 14 | V Sync |
| 7 | Green Return | 15 | $I^2C$ Clock |
| 8 | Blue Return | | |



15-pin VGA Connector




① VGA Port/Connector



① Back Panel Connectors

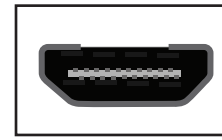
### LAN Ports

Two gigabit LAN ports are located on the I/O back panel. These ports accept RJ45 type cables. These are used to connect the motherboard to a network.

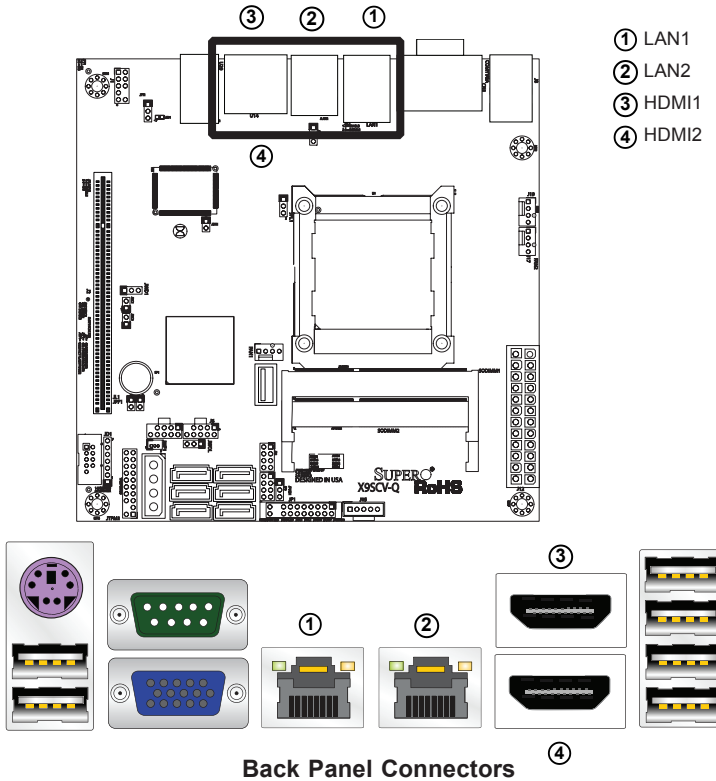
| RJ45/LAN Pin Definitions | | | |
|---|---|---|---|
| Pin # | Definition | Pin # | Definition |
| 1 | TX_D1+ | 5 | BI_D3- |
| 2 | TX_D1- | 6 | RX_D2- |
| 3 | RX_D2+ | 7 | BI_D4+ |
| 4 | BI_D3+ | 8 | BI_D4- |
| | | | |

### HDMI Port

Two HDMI (High-Definition Multimedia Interface) Ports are located next to the LAN2 Connector on the I/O backpanel. Refer to the board layout below for the location. This connector is used to display both high definition video and digital sound through an HDMI-capable display, using a single (HDMI) cable.



HDMI Port

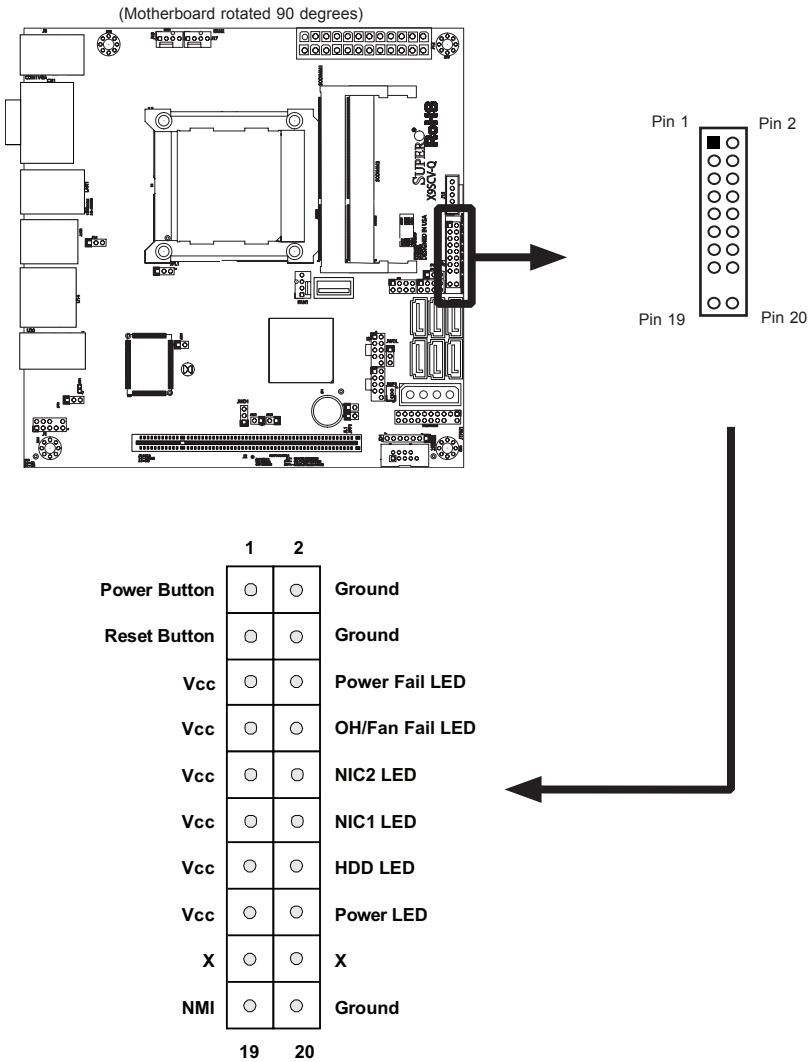



**Back Panel Connectors**

## Front Control Panel

JF1 contains header pins for various buttons and indicators that are normally located on a control panel at the front of the chassis. These connectors are designed specifically for use with Supermicro server chassis. See the figure below for the descriptions of the various control panel buttons and LED indicators. Refer to the following section for descriptions and pin definitions.

**JF1 Header Pins**



## Front Control Panel Pin Definitions

### Power LED

The Power LED connection is located on pins 15 and 16 of JF1. Refer to the table on the right for pin definitions.

| Power LED Pin Definitions (JF1) | |
|---|---|
| Pin# | Definition |
| 15 | +3.3V |
| 16 | Ground |

### HDD LED

The HDD LED connection is located on pins 13 and 14 of JF1. Attach a hard drive LED cable here to display disk activity (for any hard drive activities on the system, including Serial ATA and IDE). See the table on the right for pin definitions.

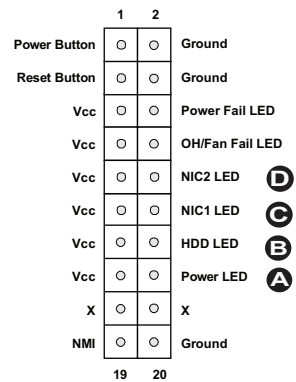
| HDD LED Pin Definitions (JF1) | |
|---|---|
| Pin# | Definition |
| 13 | +3.3V |
| 14 | HD Active |

### NIC1/NIC2 LED Indicators

The NIC (Network Interface Controller or Ethernet Controller) LED connection for LAN port 1 is located on pins 11 and 12 of JF1, and the LED connection for LAN Port 2 is on Pins 9 and 10. Attach the NIC LED cables to display network activity. Refer to the table on the right for pin definitions.

| NIC 1/2 LED Pin Definitions (JF1) | |
|---|---|
| Pin# | Definition |
| 11/9 | Vcc |
| 12/10 | Ground |

A POWER LED
B HDD LED
C NIC1
D NIC2




**JF1 Header Pins**

### Overheat (OH)/Fan Fail LED

Connect an LED Cable to the OH/Fan Fail connection on pins 7 and 8 of JF1 to provide advanced warnings of chassis overheat or fan failure. Refer to the table on the right for pin definitions.

| OH/Fan Fail Indicator Status | |
|---|---|
| State | Definition |
| Off | Normal |
| On | Overheat |
| Flash-ing | Fan Fail |

### Power Fail LED

The Power Fail LED connection is located on pins 5 and 6 of JF1. Refer to the table on the right for pin definitions.

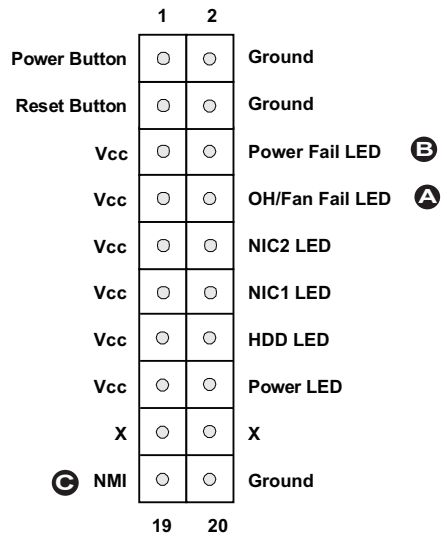
| Power Fail LED Pin Definitions (JF1) | |
|---|---|
| Pin# | Definition |
| 5 | Vcc |
| 6 | Ground |

### NMI Button

The non-maskable interrupt button header is located on pins 19 and 20 of JF1. Refer to the table on the right for pin definitions.

| NMI Button Pin Definitions (JF1) | |
|---|---|
| Pin# | Definition |
| 1 | Signal |
| 2 | Ground |

A OH/Fan Fail LED
B Power Fail LED
C NMI Button




**JF1 Header Pins**

### Reset Button

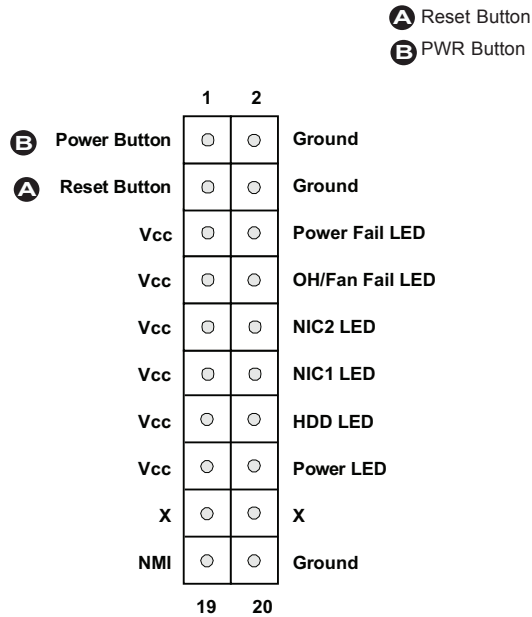
The Reset Button connection is located on pins 3 and 4 of JF1. Attach it to a hardware reset switch on the computer case. Refer to the table on the right for pin definitions.

| Reset Button Pin Definitions (JF1) | |
|---|---|
| Pin# | Definition |
| 3 | Reset |
| 4 | Ground |

### Power Button

The Power Button connection is located on pins 1 and 2 of JF1. Momentarily contacting both pins will power on/off the system. To turn off the power when set to suspend mode, press the button for at least 4 seconds. Refer to the table on the right for pin definitions.

| Power Button Pin Definitions (JF1) | |
|---|---|
| Pin# | Definition |
| 1 | Signal |
| 2 | Ground |




**JF1 Header Pins**

## 2-5 Connecting Cables

This section provides brief descriptions and pin-out definitions for onboard power connectors. Be sure to use the correct cable for each header or connector.

### ATX Power Connectors

The 24-pin (J12) and 4-pin (J16) power connectors are used to provide power to the motherboard. These connectors meets the SSI EPS 12V specification. See the tables on the right for pin definitions. **Note:** J12 is supported on the X9SCV-Q and J16 is supported only on the X9SCV-QV4.

**ATX Power 24-pin Connector Pin Definitions (JPW1)**

| Pin# | Definition | Pin # | Definition |
|---|---|---|---|
| 13 | +3.3V | 1 | +3.3V |
| 14 | -12V | 2 | +3.3V |
| 15 | COM | 3 | COM |
| 16 | PS_ON | 4 | +5V |
| 17 | COM | 5 | COM |
| 18 | COM | 6 | +5V |
| 19 | COM | 7 | COM |
| 20 | Res (NC) | 8 | PWR_OK |
| 21 | +5V | 9 | 5VSB |
| 22 | +5V | 10 | +12V |
| 23 | +5V | 11 | +12V |
| 24 | COM | 12 | +3.3V |

(Required)

### 4-pin 12V Power Source

The 4-pin 12V Power Source on J9 is used to provide power to devices such as hard disks & CD-ROM drives. This power connector supports 12V and 5V devices. Do **NOT** connect the power supply to this connector. Its purpose is to supply power to devices such as CD drives, hard drives and similar devices, it is not meant to receive power from the power supply.

**12V 4-pin CPU Power Connector Pin Definitions**

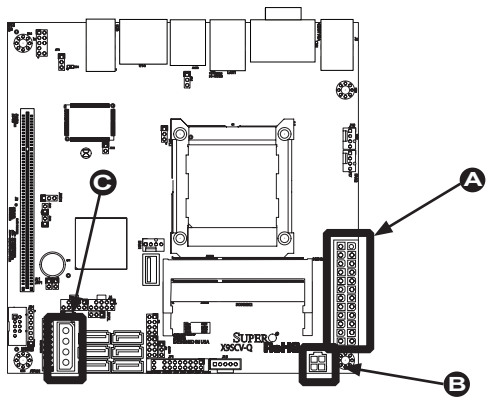
| Pins | Definition |
|---|---|
| 1 and 2 | Ground |
| 3 and 4 | +12V |

(Required)

**4-Pin 12V Power Source Pin Definitions**

| Pin | Definition |
|---|---|
| 1 | +12V |
| 2 | Ground 1 |
| 3 | Ground 2 |
| 4 | +5V |

(Optional)




A 24-pin PWR (X9SCV-Q)
B 4-pin PWR (X9SCV-QV4)
C 4-pin 12V Power Source

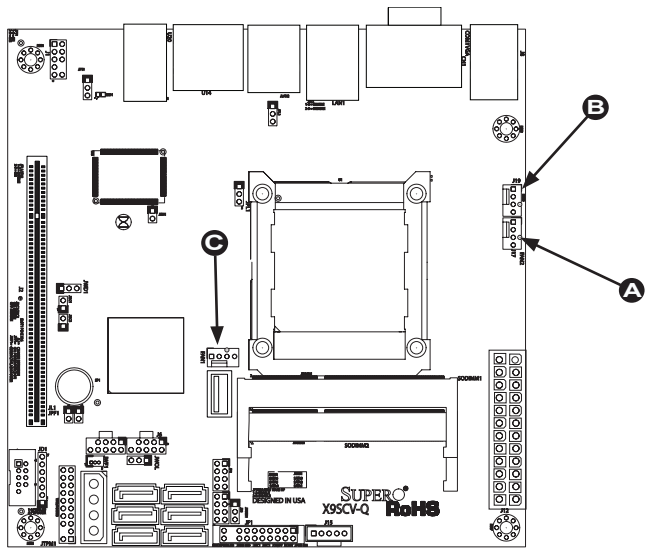
### Fan Headers

The X9SCV-Q Motherboard Series has three fan headers (Fan1~Fan3). These fans are 4-pin fan headers. However, Pins 1~3 of the fan headers are backward compatible with the traditional 3-pin fans. (**Note**: Please use all 3-pin fans or all 4-pin fans on a motherboard. Please do not use 3-pin fans and 4-pin fans on the same board. Refer to the table on the right for pin definitions.

**Note**: The speeds of 4-pin (PWM) fans are controlled by Thermal Management via BIOS Hardware Monitoring in the Advanced Setting. (The default setting is **Disabled**.)

| Fan Header Pin Definitions | |
|---|---|
| Pin# | Definition |
| 1 | Ground |
| 2 | +12V |
| 3 | Tachometer |
| 4 | PWM_Control |

A Fan2
B Fan3
C Fan1



### Front Panel Audio Header

The Front Panel Audio header on J1 is used to connect the chassis' front panel High Definition Audio (HDA) controls to the motherboard. See the table on the right for pin definitions.

### Chassis Intrusion

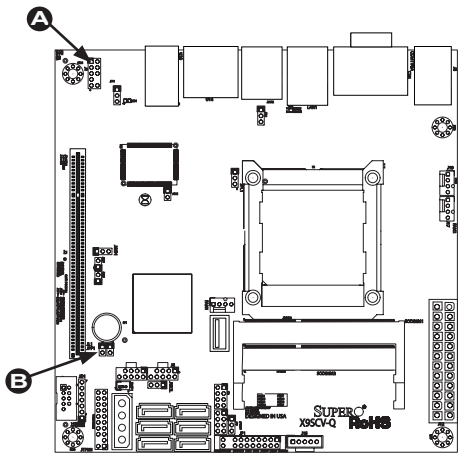
A Chassis Intrusion header is located at JL1 on the motherboard. Attach the appropriate cable from the chassis to inform you of a chassis intrusion when the chassis is opened.

**High Definition Front Panel Audio**

| Pin# | Signal |
|---|---|
| 1 | MC_L |
| 2 | AUD_GND |
| 3 | MC_R |
| 4 | FP_Audio-Detect |
| 5 | Line_2_R |
| 6 | Ground |
| 7 | FP_Jack-Detect |
| 8 | Key |
| 9 | Line_2_L |
| 10 | Ground |

**Chassis Intrusion Pin Definitions (JL1)**

| Pin# | Definition |
|---|---|
| 1 | Intrusion Input |
| 2 | Ground |




A Front Panel Audio
B Chassis Intrusion

### SATA DOM Power

The SATA DOM Power on JWF1 is used to supply power to SATA Disk-on-Module (DOM) solid-state storage devices.

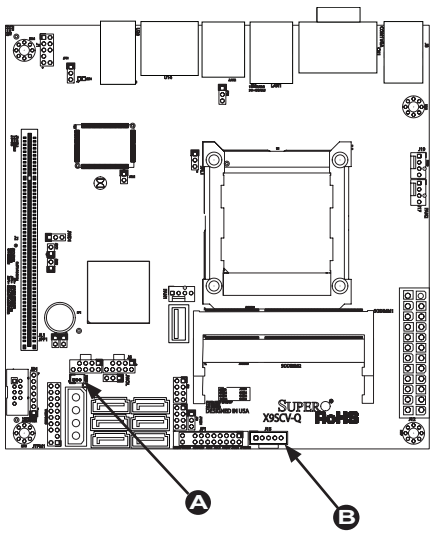
| SATA DOM Power Pin Definitions | |
|---|---|
| Pin# | Definition |
| 1 | +5V |
| 2 | Ground |
| 3 | Ground |

### Power SMB I²C Connector

Power System Management Bus (I²C) Connector on J15 monitors the status of the power supply, fan and system temperature. See the table on the right for pin definitions.

| PWR Supply I²C Pin Definitions | |
|---|---|
| Pin# | Definition |
| 1 | Clock |
| 2 | Data |
| 3 | PWR Fail |
| 4 | Ground |
| 5 | +3.3V |

A SATA DOM Power
B SMB I2C Connector



### SGPIO 1/2 Headers

The SGPIO 1 and SGPIO 2 (Serial-Link General Purpose Input/Output) headers on JP2 and JP3 are located near the SATA connectors on the motherboard. These headers are used to communicate with the enclosure management chip in the system. See the table on the right for pin definitions. Refer to the board layout below for the locations of the headers.

**Serial_Link-SGPIO Pin Definitions**

| Pin# | Definition | Pin | Definition |
|---|---|---|---|
| 1 | NC | 2 | NC |
| 3 | Ground | 4 | DATA Out |
| 5 | Load | 6 | Ground |
| 7 | Clock | 8 | NC |

### Overheat/Fan Fail LED (JOH1)

The JOH1 header is used to connect an LED to provide warnings of chassis overheat. This LED will also blink to indicate a fan failure. Refer to the table on right for pin definitions.

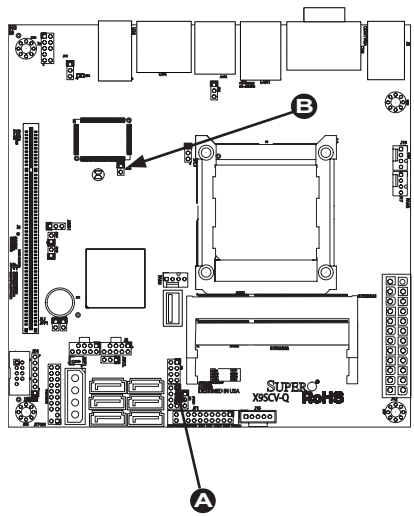
**Overheat LED Pin Definitions**

| Pin# | Definition |
|---|---|
| 1 | 5vDC |
| 2 | OH Active |

**OH/Fan Fail LED Status Message**

| State | Message |
|---|---|
| Solid | Overheat |
| Blinking | Fan Fail |

A T-SGPIO Headers
B OH/Fan Fail LED



### Power LED/Speaker

On the JD1 header, pins 1~3 are used for a power LED and pins 4~7 are used for an external speaker. If you wish to use the onboard speaker, you should close pins 6-7 with a jumper. See the table on the right for speaker pin definitions.

**Speaker Connector Pin Definitions**

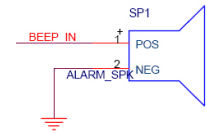
| Pin Setting | Definition |
|---|---|
| Pins 6-7 | Internal Speaker |
| Pins 4-7 | External Speaker |

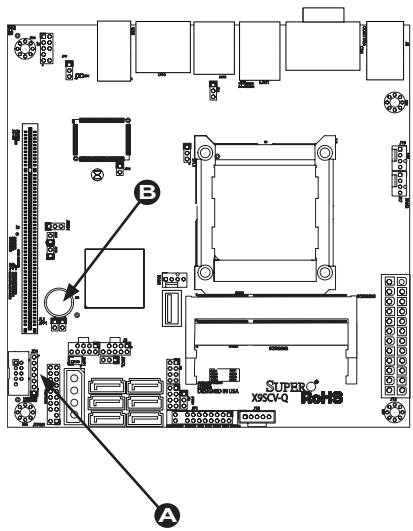
### Internal Speaker/Buzzer

The Internal Speaker on SP1 can be used to provide audible indications for various beep codes. See the table on the right for pin definitions. Refer to the layout below for the locations of the Internal Buzzer (SP1).

**Internal Buzzer Pin Definition**

| Pin# | | Definitions |
|---|---|---|
| Pin 1 | Pos. (+) | Beep In |
| Pin 2 | Neg. (-) | Alarm Speaker |




A PWR LED/SPKR
B Internal Speaker/Buzzer

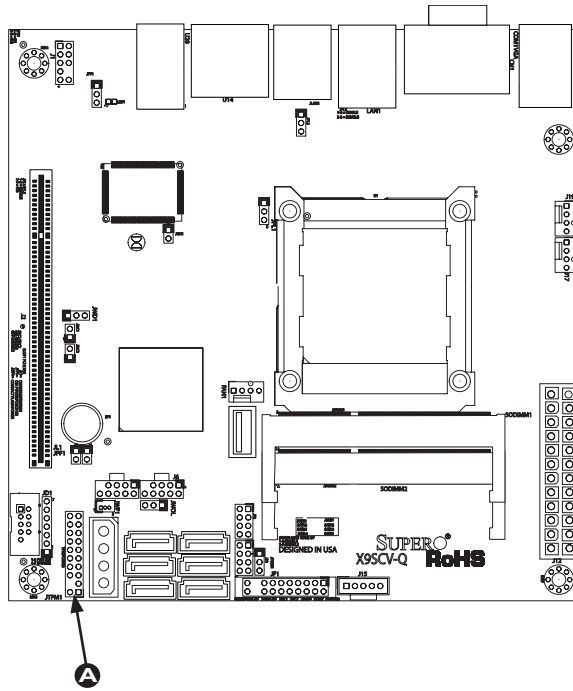
### TPM Header

This header is used to connect a Trusted Platform Module (TPM), available from a third-party vendor. A TPM is a security device that allows encryption and authentication of hard drives. It enables the motherboard to deny access if the TPM associated with the hard drive is not installed in the system. See the table on the right for pin definitions.

**Trusted Platform Module Header Pin Definitions**

| Pin # | Definition | Pin # | Definition |
|---|---|---|---|
| 1 | LCLK | 2 | GND |
| 3 | LFRAME | 4 | No Pin |
| 5 | LRESET | 6 | VCC5 |
| 7 | LAD3 | 8 | LAD2 |
| 9 | VCC3 | 10 | LAD1 |
| 11 | LAD0 | 12 | GND |
| 13 | RSV0 | 14 | RSV1 |
| 15 | SB3V | 16 | SERIRQ |
| 17 | GND | 18 | CLKRUN |
| 19 | LPCPD | 20 | RSV2 |

A TPM Header



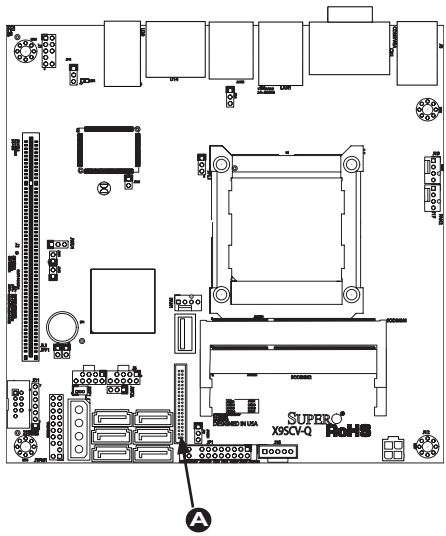
### LVDS header (X9SCV-QV4 only)

Low-Voltage Differential Signaling (LVDS) is an industry-standard electrical signaling system. This signaling system can run at very high speeds over inexpensive copper wires using low power.

The LVDS bus on the X9SCV-QV4 motherboard is used to transport video data from the built-in graphics engine to a compatible LCD display. This motherboard's LVDS connector is located where JP2 and JP3 used to be on the X9SCV-Q.

**LVDS Header Pin Definitions**

| Pin # | Definition | Pin # | Definition |
|---|---|---|---|
| 1 | +12V | 2 | +12V |
| 3 | +12V | 4 | +12V |
| 5 | +12V | 6 | GND |
| 7 | +5V | 8 | GND |
| 9 | LCDVCC | 10 | LCDVCC |
| 11 | DDC CLK | 12 | DDC DATA |
| 13 | BKLTCTL | 14 | VDD ENABLE |
| 15 | BKLTEN | 16 | GND |
| 17 | LVDS A0- | 18 | LVDS A0+ |
| 19 | LVDS A1- | 20 | LVDS A1+ |
| 21 | LVDS A2- | 22 | LVDS A2+ |
| 23 | LVDS ACLK- | 24 | LVDS ACLK+ |
| 25 | LVDS A3- | 26 | LVDS A3+ |
| 27 | GND | 28 | GND |
| 29 | LVDS B0- | 30 | LVDS B0+ |
| 31 | LVDS B1- | 32 | LVDS B1+ |
| 33 | LVDS B2- | 34 | LVDS B2+ |
| 35 | LVDS BCLK- | 36 | LVDS BCLK+ |
| 37 | LVDS B3- | 38 | LVDS B3+ |
| 39 | GND | 40 | GND |



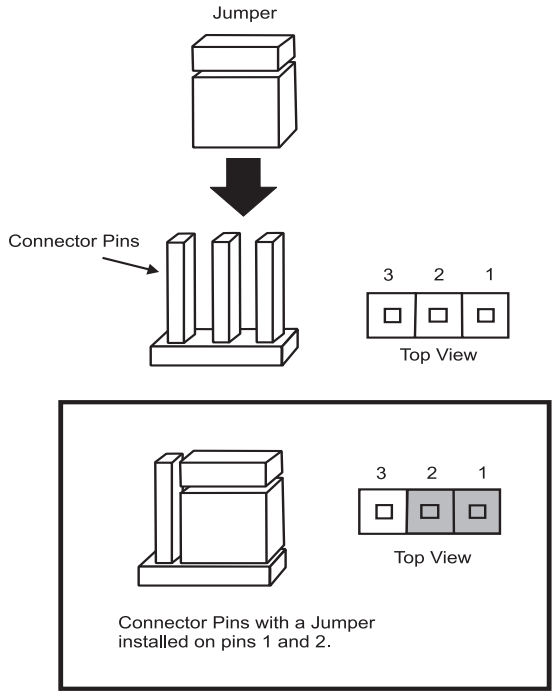

A LVDS Header

## 2-6 Jumper Settings

### Explanation of Jumpers

To modify the operation of the motherboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board.

**Note:** On two pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.



### LAN Port Enable/Disable

JPL1/JPL2 is used to enable or disable LAN Port1 and/or LAN Port2 on the motherboard. See the table on the right for jumper settings. The default setting is enabled.

| GLAN Enable Jumper Settings | |
|---|---|
| Pin# | Definition |
| 1-2 | Enabled (default) |
| 2-3 | Disabled |

### SMB ($I^2C$) Bus to PCI Slots

Jumpers $JI^2C1$ and $JI^2C2$ allow you to connect the System Management Bus (SMB) to PCI-E and PCI slots. The default setting is set to **Disabled**. See the table on the right for jumper settings.

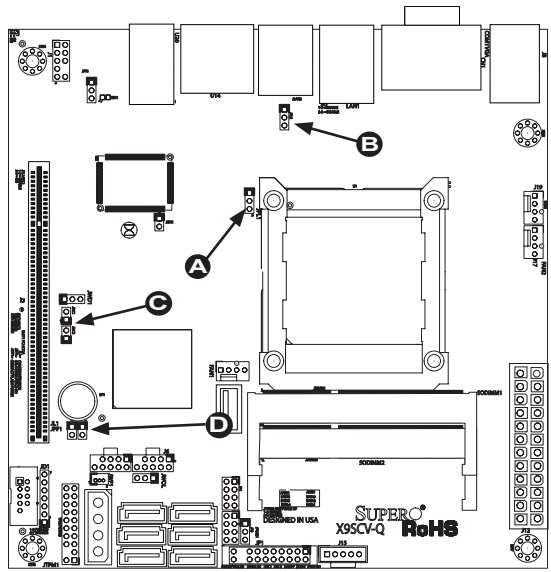
| $I^2C$ to PCI-Slots Jumper Settings | |
|---|---|
| Jumper | Definition |
| On | Enabled |
| Off | Disabled (Default) |

### Power Force On Enable/Disable

Jumper JPF1 allows you to enable (force on) or disable the Power Force On function. If enabled, the power will always stay on automatically. If this function is disabled (the normal setting), the user needs to press the power button to power on the system.

| Power Force On Enable/Disable Jumper Settings | |
|---|---|
| Jumper Setting | Definition |
| Open | Normal |
| Closed | Force On |

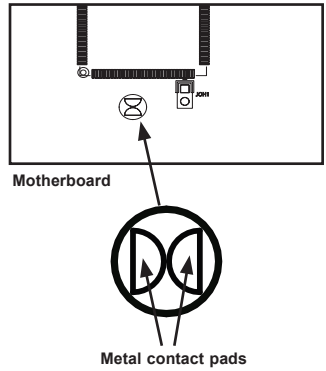
- A LAN Port 1 Enable
- B LAN Port 2 Enable
- C $JI^2C1/JI^2C2$
- D Power Force On



### CMOS Clear

JBT1 is used to clear CMOS. Instead of pins, this "jumper" consists of contact pads to prevent accidental clearing of CMOS. To clear CMOS, use a metal object such as a small screwdriver to touch both pads at the same time to short the connection. Always remove the AC power cord from the system before clearing CMOS.

**Important:** For an ATX power supply, you must completely shut down the system, remove the AC power cord and then short JBT1 to clear CMOS.

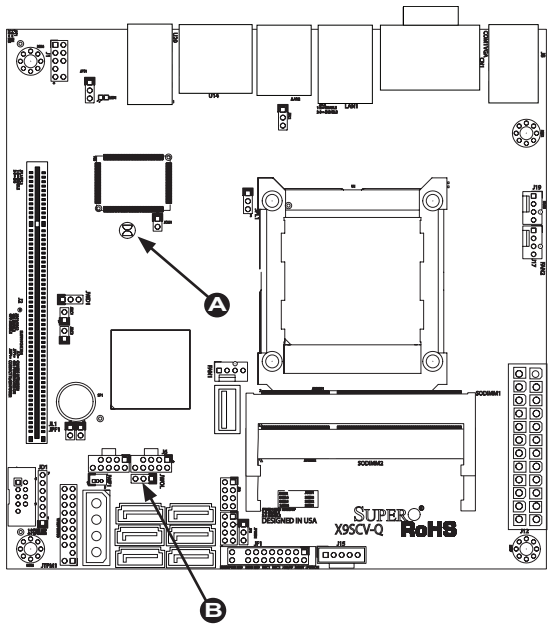



### Legacy Wake-On-LAN Header

Please be noticed that the onboard LANs (LAN1 and LAN2) do not need a WOL header to support its Wake-On-LAN feature. We preserved the legacy WOL header simply to provide convenience for some embedded customers who need an internal power source from the motherboard.

| Wake-On-LAN Pin Definitions (JWOL) | |
|---|---|
| Pin# | Definition |
| 1 | +5V Standby |
| 2 | Ground |
| 3 | Wake-up |

A CMOS Clear
B Wake On LAN Enable



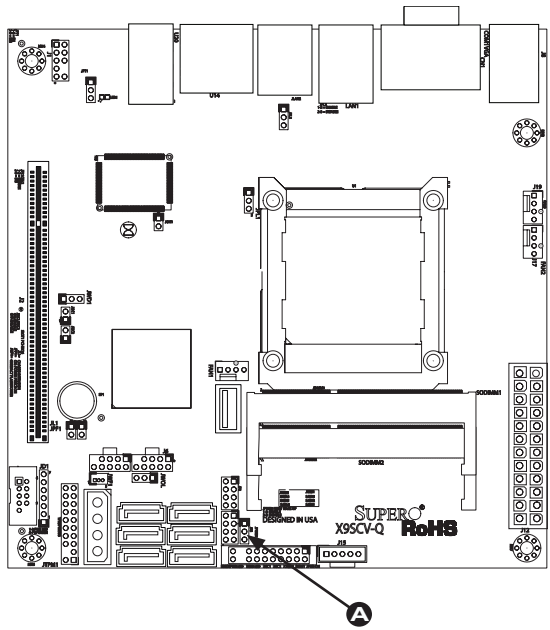
### USB Wake-Up

Use the JPUSB1 jumper to enable system "wake-up" via a USB device. This jumper allows you to "wake-up" the system by pressing a key on the USB keyboard or by clicking the USB mouse of your system. The JPUSB1 jumper is used together with the USB Wake-Up function in the BIOS. Enable both the jumper and the BIOS setting to activate this function. See the table on the right for jumper settings and jumper connections.

**Note**: The default jumper setting is "Disabled". When the "USB Wake-Up" function is enabled, it will be active on all USB ports.

| USB Wake-Up Jumper Settings | |
|---|---|
| Jumper Setting | Definition |
| Pins 1-2 | Enabled |
| Pins 2-3 | Disabled (Default) |

A USB Wake-up



### TPM Support Enable

JPT1 allows the user to enable TPM (Trusted Platform Module) support to enhance data integrity and system security. See the table on the right for jumper settings. The default setting is enabled.

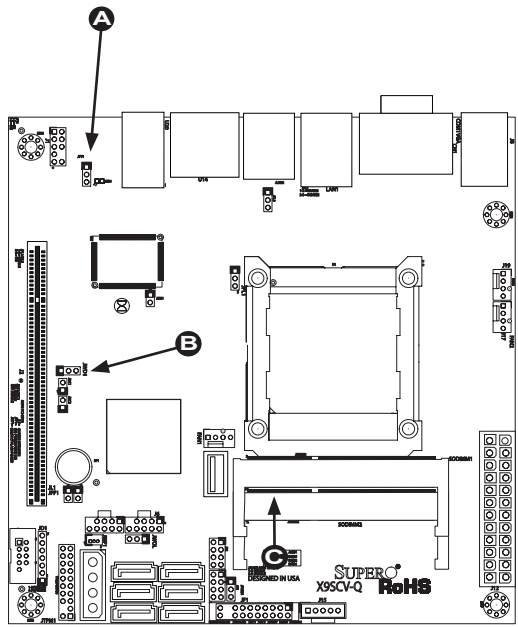
| TPM Support Enable Jumper Settings | |
|---|---|
| Jumper Setting | Definition |
| 1-2 | Enabled (Default) |
| 2-3 | Disabled |

### Watch Dog Enable/Disable

Watch Dog (JWD1) is a system monitor that can reboot the system when a software application hangs. Close pins 1~2 to reset the system if an application hangs. Close pins 2~3 to generate a non-maskable interrupt signal for the application that hangs. See the table on the right for jumper settings. Watch Dog must also be enabled in the BIOS.

| Watch Dog Jumper Settings | |
|---|---|
| Jumper Setting | Definition |
| Pins 1-2 | Reset (default) |
| Pins 2-3 | NMI |
| Open | Disabled |

A TPM Enable
B Watch Dog Enable



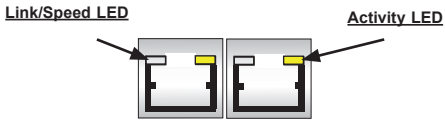
## 2-7 Onboard Indicators

### LAN Port LEDs

Two LAN ports are located on the I/O Backplane. Each Ethernet LAN port has two LEDs. The yellow Activity LED (right, see below) indicates activity, while the Link/ Speed LED (left) may be green, amber or off to indicate the speed of the connection. See the tables at right for more information.

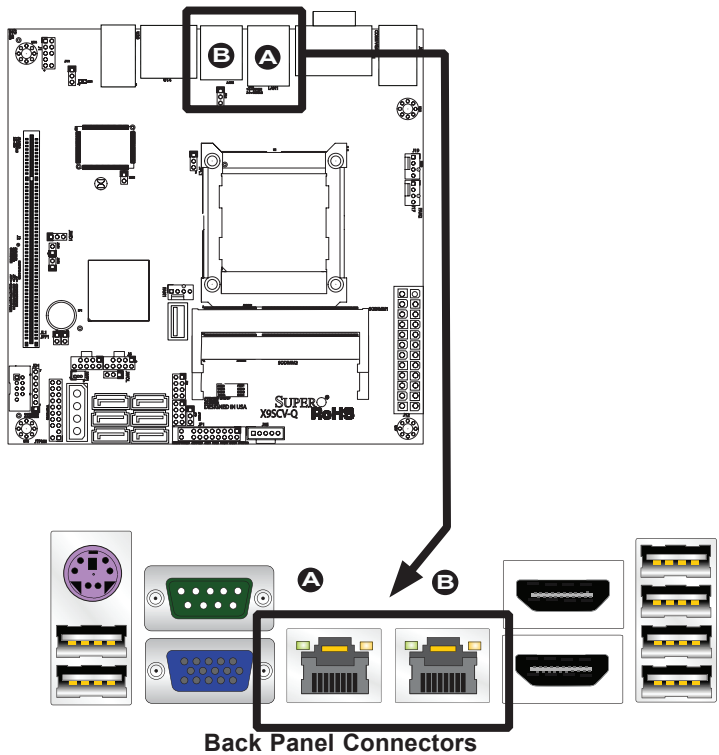
| GLAN Link/Speed LED Indicator | |
|---|---|
| LED Color | Definition |
| Off | No Connection or 10 Mbps |
| Green (On) | 100 Mbps |
| Amber (On) | 1 Gbps |

| GLAN Activity LED Indicator | |
|---|---|
| Color | Definition |
| Yellow (Flashing) | ConnectionActive |




**Rear View** (when facing the rear side of the chassis)

A LAN Port 1
B LAN Port 2 (



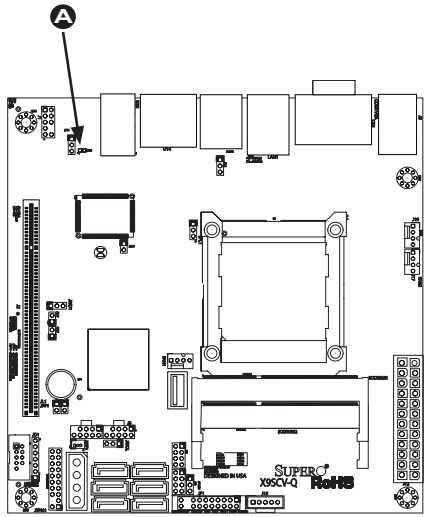

**Back Panel Connectors**

### Onboard Power LED

An Onboard Power LED is located at LED1 on the motherboard. When LED1 is on, the AC power cable is connected and the system is running.

| Onboard PWR LED (LED1) LED Status | |
|---|---|
| Status | Definition |
| Off | System Off (Soft Switch) |
| On | System is Running |

A LED1



## 2-8 Serial ATA and HDD Connections

Note the following conditions when connecting the Serial ATA and hard disk drive cables:

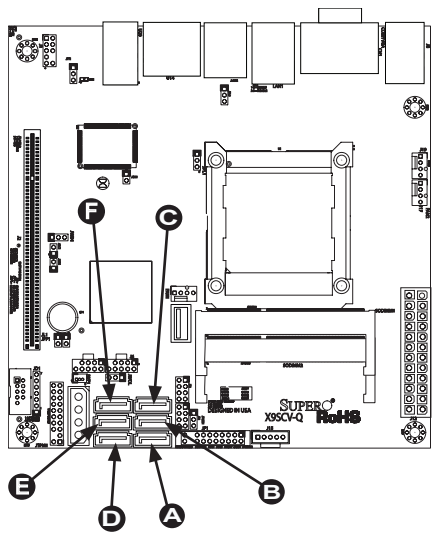
- Be sure to use the correct cable for each connector. Refer to Page 1-1 for cables that came with your shipment.

**SATA Connections (SATA1~SATA6)**

Two Serial ATA (SATA) 3.0 connectors (I-SATA 1/2) are located on the motherboard. In addition, four SATA 2.0 (I-SATA 3~6) connectors are also located on the board. The SATA 3.0 ports support RAID 0, 1 while the SATA 2.0 ports support RAID 0, 1, 5 &10. These Serial Link connections provide faster data transmission than legacy Parallel ATA. See the table below for pin definitions.

| C7Q67 SATA Connector Types | | |
|---|---|---|
| Port# | Connection Type | Connector Color |
| SATA 1/2, | SATA 3.0 | White |
| SATA 3/4/5/6 | SATA 2.0 | Black |

| SATA 2.0/3.0 Connectors Pin Definitions | |
|---|---|
| Pin# | Signal |
| 1 | Ground |
| 2 | SATA_TXP |
| 3 | SATA_TXN |
| 4 | Ground |
| 5 | SATA_RXN |
| 6 | SATA_RXP |
| 7 | Ground |




- A I-SATA1 (3.0)
- B I-SATA2 (3.0)
- C I-SATA3
- D I-SATA4
- E I-SATA5
- F I-SATA6

Notes

# Chapter 3

# Troubleshooting

## 3-1 Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the 'Technical Support Procedures' and/or 'Returning Merchandise for Service' section(s) in this chapter. Always disconnect the AC power cord before adding, changing or installing any hardware components.

### Before Power On

1. Be sure to unplug the power cable before installing or removing the components.)
2. Make sure that there are no short circuits between the motherboard and chassis.
3. Disconnect all ribbon/wire cables from the motherboard, including those for the keyboard and mouse. Also, be sure to remove all add-on cards.
4. Connect the chassis speaker and the power LED to the motherboard. Check all jumper settings as well.

### No Power

1. Make sure that there are no short circuits between the motherboard and chassis.
2. Make sure that all jumpers are set to their default positions.
3. Check if the 115V/230V switch on the power supply is properly set.
4. Turn the power switch on and off to test the system.
5. The battery on your motherboard may be old. Check to make sure that it still supplies ~3VDC. If it does not, replace it with a new one.

### No Video

1. If the power is on, but you have no video--in this case, you will need to remove all the add-on cards and cables first.

2. Use the speaker to determine if any beep codes exist. (Refer to Appendix A for details on beep codes.)

3. Remove all memory modules and turn on the system. (If the alarm is on, check the specs of memory modules, reset the memory or try a different one.)

### Memory Errors

1. Make sure that the SO-DIMM modules are properly installed and fully seated in the slots.

2. Please check Section 2-3 and make sure that you are using the correct memory. Also, it is recommended that you use the memory modules of the same type and speed for all DIMMs in the system.

3. Check for bad DIMM modules or slots by swapping modules between slots to see if you can locate the faulty modules.

4. Check the power supply voltage 115V/230V switch.

### If You Lose the System's Setup Configuration

1. Please be sure to use a high quality power supply. A poor quality power supply may cause the system to lose the CMOS setup information. Refer to Section 1-5 for details on recommended power supplies.

2. The battery on your motherboard may be old. Check to verify that it still supplies ~3VDC. If it does not, replace it with a new one.

3. If the above steps do not fix the Setup Configuration problem, contact your vendor for repairs.

## 3-2 Technical Support Procedures

Before contacting Technical Support, please make sure that you have followed all the steps listed below. Also, Note that as a motherboard manufacturer, Supermicro does not sell directly to end users, so it is best to first check with your distributor or reseller for troubleshooting services. They should know of any possible problem(s) with the specific system configuration that was sold to you.

1. Please go through the 'Troubleshooting Procedures' and 'Frequently Asked Question' (FAQ) sections in this chapter or see the FAQs on our website (http://www.supermicro.com/support/faqs/) before contacting Technical Support.

2. BIOS upgrades can be downloaded from our website at (http://www.supermicro.com/support/bios/).

**Note:** Not all BIOS can be flashed. Some cannot be flashed; it depends on the modifications to the boot block code.

3. If you've followed the instructions above to troubleshoot your system, and still cannot resolve the problem, then contact Supermicro's technical support and provide them with the following information:

- Motherboard model and PCB revision number
- BIOS release date/version (this can be seen on the initial display when your system first boots up)
- System configuration (OS version, peripheral devices, power supply type, etc)

An example of a Technical Support form is on our website at (http://www.supermicro.com/support/contact.cfm).

4. Distributors: For immediate assistance, please have your account number ready when placing a call to our technical support department. We can be reached by e-mail at support@supermicro.com, by phone at: (408) 503-8000, option 2, or by fax at (408)503-8019.

## 3-3 Frequently Asked Questions

**Question: What type of memory does my motherboard support?**

**Answer:**

The X9SCV-Q Motherboard Series supports up to 16GB of **unbuffered** Non-ECC DDR3 1066/1333 MHz, two-way interleaved or non-interleaved SODIMM memory. See Section 2-4 for details on installing memory.

**Question: Why does Microsoft Windows show less memory than what is physically installed?**

**Answer:** Microsoft implemented a design change in Windows XP with Service Pack 2 (SP2) and Windows Vista. This change is specific to the Physical Address Extension (PAE) mode behavior which improves driver compatibility. For more information, please read the following article at Microsoft's Knowledge Base website at: http://support.microsoft.com/kb/888137.

**Question: How do I update my BIOS?**

**Answer:** It is recommended that you **do not** upgrade your BIOS if you are not experiencing any problems with your system. Updated BIOS files are located on our web site at http://www.supermicro.com/support/bios/. Please check our

BIOS warning message and the information on how to update your BIOS on our web site. Select your motherboard model and download the BIOS (.rom) file to your computer. Also, check the current BIOS revision and make sure that it is newer than your BIOS before downloading. You may choose the zip file or the .exe file. If you choose the zipped BIOS file, please unzip the BIOS file onto a bootable device or a USB pen/thumb drive. To flash the BIOS, run the batch file named "ami.bat" with the new BIOS ROM file from your bootable device or USB pen/thumb drive. Use the following format:

F:\> ami.bat BIOS-ROM-filename.xxx <Enter>

**Notes:** Always use the file named “ami.bat” to update the BIOS and insert a space between "ami.bat" and the filename. The BIOS-ROM-filename will bear the motherboard name (i.e., X9SCV) and build version as the extension. For example, "X9SCV0.526".

When completed, your system will automatically reboot. If you choose the .exe file, please run the .exe file under Windows to create the BIOS flash floppy disk. Insert the floppy disk into the system you wish to flash the BIOS. Then, boot the system to the floppy disk. The BIOS utility will automatically flash the BIOS without any prompts. Please note that this process may take a few minutes to complete. Do not be concerned if the screen is paused for a few minutes.

**Warning**: Do not shut down or reset the system while updating the BIOS to prevent possible system boot failure!

When the BIOS flashing screen is completed, the system will reboot and will show “Press F1 or F2”. At this point, you will need to load the BIOS defaults. Press <F1> to go to the BIOS setup screen, and press <F9> to load the default settings. Next, press <F10> to save and exit. The system will then reboot.

**Note:** The SPI BIOS chip installed on this motherboard is not removable. To repair or replace a damaged BIOS chip, please send your motherboard to RMA at Supermicro for service.

If your BIOS crashes and your motherboard will no longer boot, please read Appendix C - UEFI BIOS Recovery Instructions for instructions.

**Question: What's on the CD that came with my motherboard?**

**Answer:** The supplied compact disc has quite a few drivers and programs that will greatly enhance your system. We recommend that you review the CD and install the applications you need. Applications on the CD include chipset drivers for Windows, security and audio drivers.

## 3-4 Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

## Notes

# Chapter 4

# BIOS

## 4-1 Introduction

This chapter describes the AMI BIOS Setup Utility for your motherboard. The AMI ROM BIOS is stored in a Flash EEPROM and can be easily updated. This chapter describes the basic navigation of the AMI BIOS Setup Utility setup screens.

**Note:** For instructions on BIOS recovery, please refer to the instruction guide posted at http://www.supermicro.com/support/manuals/.

### Starting BIOS Setup Utility

To enter the AMI BIOS Setup Utility screens, press the <Delete> key while the system is booting up.

**Note**: In most cases, the <Delete> key is used to invoke the AMI BIOS setup screen. There are a few cases when other keys are used, such as <F1>, <F2>, etc.

Each main BIOS menu option is described in this manual. The Main BIOS setup menu screen has two main frames. The left frame displays all the options that can be configured. Grayed-out options cannot be configured. Options in blue can be configured by the user. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it. (**Note**: the AMI BIOS has default text messages built in. Supermicro retains the option to include, omit, or change any of these text messages.)

The AMI BIOS Setup Utility uses a key-based navigation system called "hot keys". Most of the AMI BIOS setup utility "hot keys" can be used at any time during the setup navigation process. These keys include <F1>, <F4>, <Enter>, <ESC>, arrow keys, etc.

**Note**: Options printed in **Bold** are default settings.

### How To Change the Configuration Data

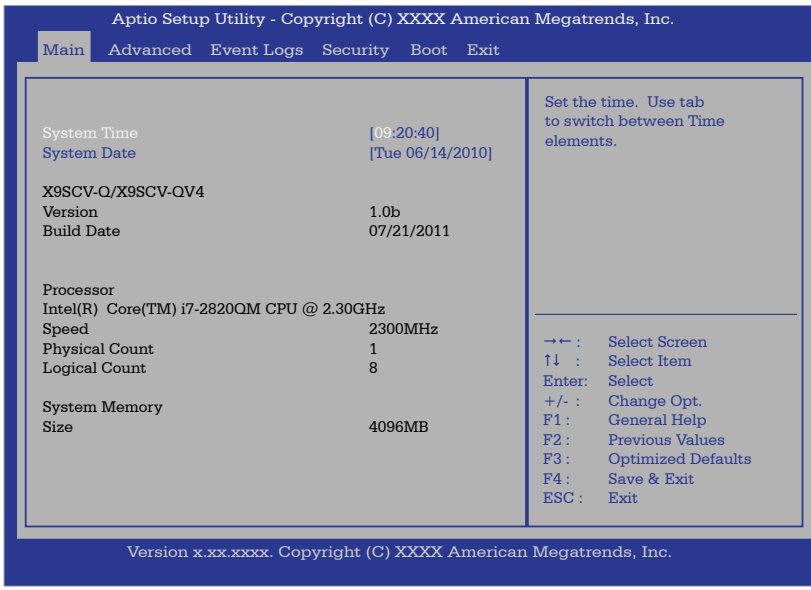
The configuration data that determines the system parameters may be changed by entering the AMI BIOS Setup utility. This Setup utility can be accessed by pressing <Del> at the appropriate time during system boot.

### How to Start the Setup Utility

Normally, the only visible Power-On Self-Test (POST) routine is the memory test. As the memory is being tested, press the <Delete> key to enter the main menu of the AMI BIOS Setup Utility. From the main menu, you can access the other setup screens. An AMI BIOS identification string is displayed at the left bottom corner of the screen, below the copyright message.

## 4-2 Main Setup

When you first enter the AMI BIOS Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab on the top of the screen. The Main BIOS Setup screen is shown below.



**System Overview:** The following BIOS information will be displayed:

**System Time/System Date**

Use this option to change the system time and date. Highlight *System Time* or *System Date* using the arrow keys. Enter new values through the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date must be entered in Day MM/DD/YY format. The time is entered in HH:MM:SS format. (**Note:** The time is in the 24-hour format. For example, 5:30 P.M. appears as 17:30:00.)

Supermicro X9SCV-Q

Version

Build Date

**Processor**

The AMI BIOS will automatically display the status of processor as shown below:

Type of Processor

Speed

Physical Count

Logical Count

**System Memory**

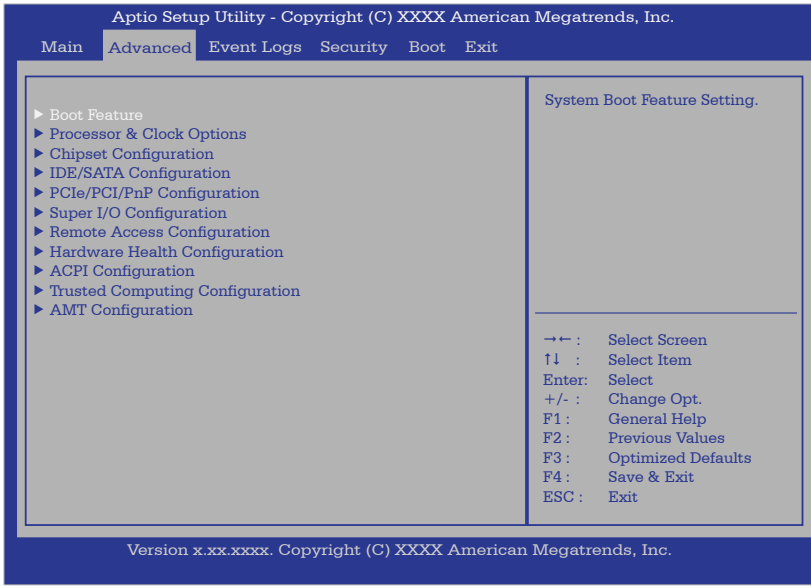
This displays the size of memory available in the system:

System Memory

Size

## 4-3 Advanced Setup Configurations

Use the arrow keys to select Boot Setup and hit <Enter> to access the submenu items:




### ▶BOOT Feature

#### Quiet Boot

This option allows the bootup screen options to be modified between POST text messages or the Supermicro logo. Select Disabled to display the POST messages. Select Enabled to display the Supermicro logo instead of the normal POST messages. The options are **Enabled** and Disabled.

#### AddOn ROM Display Mode

This sets the display mode for Option ROM. The options are **Force BIOS** and Keep Current.

#### Bootup Num-Lock

This feature selects the Power-on state for Numlock key. The options are Off and **On**.

**Wait For 'F1' If Error**

This forces the system to wait until the 'F1' key is pressed if an error occurs. The options are Disabled and **Enabled**.

**Interrupt 19 Capture**

Interrupt 19 is the software interrupt that handles the boot disk function. When this item is set to Enabled, the ROM BIOS of the host adaptors will "capture" Interrupt 19 at boot and allow the drives that are attached to these host adaptors to function as bootable disks. If this item is set to Disabled, the ROM BIOS of the host adaptors will not capture Interrupt 19, and the drives attached to these adaptors will not function as bootable devices. The options are **Enabled** and Disabled.

**Watch Dog Function**

If enabled, the Watch Dog Timer will allow the system to reboot when it is inactive for more than 5 minutes. The options are Enabled and **Disabled.**

**Power Button Function**

This setting allows you to decide if the power button will turn off the system instantly or wait for 4 seconds when it is pressed. The options are **Instant Off** and 4 Seconds Override.

**Restore on AC Power Loss**

Use this feature to set the power state after a power outage. Select Power-Off for the system power to remain off after a power loss. Select Power-On for the system power to be turned on after a power loss. Select Last State to allow the system to resume its last state before a power loss. The options are Power-On, Power-Off and **Last State**.

## ▶Processor & Clock Options

**Clock Spread Spectrum**

Select Enable to use the feature of Clock Spectrum, which will allow the BIOS to monitor and attempt to reduce the level of Electromagnetic Interference caused by the components whenever needed. Select Disabled to enhance system stability. The options are **Disabled** and Enabled.

**Hardware Prefetcher**

If set to Enabled, the hardware pre fetcher will pre fetch streams of data and instructions from the main memory to the L2 cache in the forward or backward manner to improve CPU performance. The options are Disabled and **Enabled**.

**Adjacent Cache Line Prefetch**

The CPU fetches the cache line for 64 bytes if this option is set to Disabled. The CPU fetches both cache lines for 128 bytes as comprised if **Enabled**.

**Intel® Virtualization Technology**

Select Enabled to use the feature of Virtualization Technology to allow one platform to run multiple operating systems and applications in independent partitions, creating multiple "virtual" systems in one physical computer. The options are **Enabled** and Disabled. **Note**: If there is any change to this setting, you will need to power off and restart the system for the change to take effect. Please refer to Intel's web site for detailed information.

**Execute-Disable Bit Capability (Available when supported by the OS and the CPU)**

Set to Enabled to enable the Execute Disable Bit which will allow the processor to designate areas in the system memory where an application code can execute and where it cannot, thus preventing a worm or a virus from flooding illegal codes to overwhelm the processor or damage the system during an attack. The default is **Enabled**. (Refer to Intel and Microsoft Web Sites for more information.)

**Intel® AES-NI**

Set to Enabled to use the processor's Advanced Encryption Standard (AES) feature. The options are Enabled and **Disabled**.

**Intel® Hyper Threading Technology**

Set to Enabled to use the processor's Hyper Threading Technology feature. Enabling hyper-threading results in increased CPU performance. The options are **Enabled** and Disabled.

**Active Processor Cores**

Set to Enabled to use a processor's Second Core and beyond. (Please refer to Intel's web site for more information.) The options are **All,** 1, 2 and 3.

**EIST**

EIST (Enhanced Intel SpeedStep Technology) allows the system to automatically adjust processor voltage and core frequency in an effort to reduce power consumption and heat dissipation. **Please refer to Intel's web site for detailed information.** The options are **Disabled** and Enabled.

**CPU C3 Report, CPU C6 Report**

This BIOS feature enables or disables C3 or C4 reporting to the operating system. The options are **Disabled** and Enabled.

### ▶Turbo Boost Technology

**Turbo Mode**

This feature allows processor cores to run faster than marked frequency in specific conditions. The options are Disabled and **Enabled.**

**Long duration power limit** - this is the processor power consumption limit (in Watts) during a long duration time window.

**Long duration maintained** - this is the time in milliseconds where the Long Duration Power Limit is maintained.

**Short duration power limit** - During Turbo Mode, the system may exceed the processor's default power setting and exceed the Short Duration Power limit. By increasing this value, the processor can provide better performance for a short duration.

## ▶Chipset Configuration

**Warning**: Take Caution when changing the Advanced settings. An incorrect value, a very high DRAM frequency or incorrect DRAM timing may cause system to become unstable. When this occurs, revert to the default setting.

The items included in the Advanced Settings submenu are listed below.

### ▶CPU Bridge Configuration

**Memory Frequency**

This option allows the user to select the desired frequency setting for the onboard memory modules. The options are **Auto**, Force DDR-800, Force DDR-1066 and Force DDR-1333.

### ▶System Agent Configuration

**VT-d**

Select Enabled to enable Intel's Virtualization Technology support for Direct I/O VT-d by reporting the I/O device assignments to VMM through the DMAR ACPI Tables. This feature offers fully-protected I/O resource-sharing across the Intel platforms, providing the user with greater reliability, security and availability in networking and data-sharing. The settings are Enabled and **Disabled**.

**PEG#0 Gen**

Use this option to configure PEG port Gen speed with compliant PCIe Gen speed. The options are **Auto**, Gen1 and Gen2.

**Initiate Graphics Adapter**

This option allows the user to select the desired Primary Display adapter between the onboard Intel Graphics Accelerator (iGFX) or an optional PCI Express Graphics (PEG). The options are **Auto**, iGFX/PEG and PEG/iGFX

## ▶South Bridge Configuration

**GbE Controller**

Select Enabled to enable the onboard gigabit Ethernet controller. The settings are **Enabled** and Disabled.

**Wake on LAN**

Select Enabled to enable the capabiltiy to 'wake-up' the system through the Ethernet controller. The settings are **Enabled** and Disabled.

**USB Functions**

This feature allows the user enable or disable the onboard USB ports. The Options are Disabled and **Enabled.**

**Legacy USB Support**

This feature enables support for legacy USB devices. Select Auto to disable legacy support if USB devices are not present. Select Disable to have USB devices available only for EFI applicatioins. The options are **Enabled,** Disabled and Auto.

**BIOS EHCI Hand-Off**

This item is for Operating Systems that does not support Enhanced Host Controller Interface (EHCI) hand-off. When enabled, EHCI ownership change will be claimed by the EHCI driver. The settings are **Enabled** and Disabled.

**Azalia HD Audio**

Select Enabled to enable the Azalia High Definition Audio feature. The settings are **Enabled** and Disabled.

**Azalia Internal HDMI**

Select Enabled to enable the internal HDMI CODEC (Coder-Decoder) for Azalia. The settings are **Enabled** and Disabled.

## ▶IDE/SATA Configuration

When this submenu is selected, the AMI BIOS automatically detects the presence of the IDE Devices and displays the following items:

**SATA Controller(s)**

This option is used to enable or disable the built-in SATA controllers. The options are **Enabled** and Disabled.

**SATA Mode Selection**

This feature allows the user to select the mode under which the SATA controllers operate. The options are IDE, **AHCI** and RAID.

**Aggressive LPM Support (AHCI and RAID SATA Mode)**

Enables PCH to aggressively enter link power state. The options are **Enabled** and Disabled**.**

**Serial ATA Port 0~5**

This feature displays the model and capacity of the detected device attached to the port. This is informational only.

## ▶PCIe/PCI/PnP Configuration

This feature allows the user to set the PCIe/PCI/PnP configurations for the following items:

**PCI ROM Priority**

In case of multiple Option ROMs (Legacy and EFI-compatible), this feature specifies what ROM to launch. The options are **Legacy ROM** and EFI Compatible ROM.

**PCI Latency Timer**

This feature sets the latency Timer of each PCI device installed on a PCI bus. Select 64 to set the PCI latency to 64 PCI clock cycles. The options are 32 PCI Bus Clocks, **64 PCI Bus Clocks**, 96 PCI Bus Clocks, 128 PCI Bus Clocks, 160 PCI Bus Clocks, 192 PCI Bus Clocks, 224 PCI Bus Clocks and 248 PCI Bus Clocks.

**Active State Power Management**

Select Enabled to enable Active-State Power Management for signal transactions between L0 and L1 Links on the PCI Express Bus in order to maximize power-saving and transaction speeds. The options are Enabled and **Disabled**.

**PCIe Max Read Request Size**

This item manually sets the maximum read request size of the PCI Express device or allows the system BIOS to choose the value (Auto). The options are **Auto**, 128 Bytes, 256 Bytes, 512 Bytes, 1024 Bytes, 2048 Bytes and 4096 Bytes

**PCIe Slot 1 Option ROM**

Use this feature to enable or disable PCI slot Option ROMs. The options are Disabled and **Enabled.**

**Onboard LAN Option ROM Select**

This feature selects whether to load the iSCSI or PXE onboard LAN option ROM. The options are iSCSI and **PXE**.

**Load Onboard LAN1/LAN2 Option ROM**

This feature enables or disables the onboard ROM option for LAN1 and LAN2. The options are **Disabled** and Enabled.

## ▶Super IO Device Configuration

**Serial Port 1 / Serial Port 2**

Select Enabled to enable the onboard serial port. The options are **Enabled** and Disabled.

**Serial Port 1 ~ 2 Settings**

This option specifies the base I/O port address and the Interrupt Request address of Serial Port 1 ~ 4. Select Auto to let the BIOS automatically assign the base I/O and IRQ address.

The options for Serial Port 1 are **Auto**, (IO=3F8h; IRQ=4), (IO=3F8h; IRQ=4, 10, 11), (IO=2F8h; IRQ=3, 10, 11), (IO=3E8h; IRQ=4, 10, 11) and (IO=2E8h; IRQ=3, 10, 11).

The options for Serial Port 2 are **Auto**, (IO=2F8h; IRQ=3), (IO=3F8h; IRQ=4, 10, 11), (IO=2F8h; IRQ=3, 10, 11), (IO=3E8h; IRQ=4, 10, 11) and (IO=2E8h; IRQ=3, 10, 11).

## ▶Remote Access Configuration

**Console Redirection**

Use this feature to enable console redirection for COM1, COM2 and COM3 (PCI Dev22, Func3) ports. The options are **Enabled** and Disabled.

### ▶Console Redirection Settings

Configure the following options for the Console Redirection Settings. The most common settings are set as default:

Terminal Type : Select ANSI, **VT100**, VT100+, or VT-UTF8

Bits per Second (BPS): 9600, 19200, 57600, or **115200**

Data Bits: **8** or 7

Parity: **None**, Even, Odd, Mark, or Space

Stop Bits: **1** or 2

Flow Control: **None** or Hardware RTS/CTS

Recorder Mode: **Disabled** or Enabled

Resolution 100x31: **Disabled** or Enabled

Legacy OS Redirection Resolution: 80x24 or **80x25**

**Serial Port for Out-of-Band Management**

**Windows Emergency Services (EMS)**

**Console Redirection**

Use this feature to enable console redirection of the Serial Port for Out-of-Band Management Windows Emergency Services (EMS). The options are **Enabled** and Disabled.

**Out-of-Band Mgmt Port**

Use this feature to select which port to activate Microsoft Windows Emergency Management Services (EMS). The options are **COM1**, COM2 and COM3 (PCI Dev0,Func0) (Disabled).

**Terminal Type**

Use this feature to select what terminal emulation to use with Remote Access. The options are ANSI, VT100, VT100+, or **VT-UTF8**.

**Bits per Second (BPS)**

The options are 9600, 19200, 57600, or **115200**

**Flow Control**

The options are **None,** Hardware RTS/CTS and Software Xon/Xoff

**The following are for information only and cannot be changed:**

Data Bits: 8 or 7

Parity: None, Even, Odd, Mark, or Space

Stop Bits: 1 or 2

## ▶Hardware Health Configuration

This feature allows the user to monitor Hardware Health of the system and review the status of each item when displayed.

**Fan Speed Control Mode**

This feature allows the user to decide how the system controls the speed of the onboard fans. The CPU temperature and the fan speed are correlative. When the CPU on-die temperature increases, the fan speed will also increase for effective system cooling. Select Full Speed to allow the onboard fans to run at full speed all the times. Select Standard for the onboard fans to run initially at 50% in order to balance the needs between system cooling and power saving, then automatically adjust speed as needed by the system. This setting is recommended for regular systems with normal hardware configurations. The options are Full Speed and **Standard**.

**CPU Temperature**

The CPU Temperature feature will display the CPU temperature status as detected by the BIOS.

**Low** – This level is considered as the 'normal' operating state. The CPU temperature is well below the CPU 'Temperature Tolerance'. The motherboard fans and CPU will run normally as configured in the BIOS (Fan Speed Control).

User intervention: No action required.

**Medium** – The processor is running warmer. This is a 'precautionary' level and generally means that there may be factors contributing to this condition, but the CPU is still within its normal operating state and below the CPU 'Temperature Tolerance'. The motherboard fans and CPU will run normally as configured in the BIOS. The fans may adjust to a faster speed depending on the Fan Speed Control settings.

User intervention: No action is required. However, consider checking the CPU fans and the chassis ventilation for blockage.

**High** – The processor is running hot. This is a 'caution' level since the CPU's 'Temperature Tolerance' has been reached (or has been exceeded) and may activate an overheat alarm:

**PCH, System, Peripheral Temperature**

This feature displays the absolute system temperature (i.e., 90°C).

**Fan 1 ~ 3 Speed**

This feature displays the fan speed readings from fan interfaces (in RPM)

**Vcore_CPU, VCC_SA, VCore_GFX, 5VCC, 12V, 3.3VCC, 3VSB, and VBAT**

This feature displays the voltage readings for the described components.

## ▶ACPI Configuration

Use this feature to configure Advanced Configuration and Power Interface (ACPI) power management settings for your system.

**High Precision Event Timers**

Select Enabled to activate the High Performance Event Timer (HPET) that produces periodic interrupts at a much higher frequency than a Real-time Clock (RTC) does in synchronizing multimedia streams, providing smooth playback and reducing the dependency on other timestamp calculation devices, such as an x86 RDTSC Instruction embedded in the CPU. The High Performance Event Timer is used to replace the 8254 Programmable Interval Timer. The options are **Enabled** and Disabled.

**Suspend Mode**

This setting allows you to configure the ACPI (Advanced Configuration and Power Interface) state for your system when it is in the Suspend mode. The options are Suspend Disabled, **S1 (POS)**, and S3 (STR).

**PS/2 KB/MS Wake Up**

This feature is used to configure the PS/2 mouse or PS/2 keyboard wake up setting. The options are **S1 (OS Control)**, S5 (OS Control), Force Enable and Force Disable.

**S1 (OS Control)** - Wake up from S1

**S5 (OS Control)** - Wake up from S5 and above

**Force Enable** - Wake up support is always ON; regardless of whether it is disabled in the OS device manager.

**Force Disable** - Wake up support is always OFF; regardless of whether it is enabled in the OS device manager.

## ▶Trusted Computing Configuration

**TPM Support**

Select Enable to activate support for trusted platforms (TPM 1.1/1.2) and allow the BIOS to automatically download the drivers needed to provide support for the platforms specified. The options are Disable and **Enable**.

**TPM State**

This feature changes the TPM State. The options are Disable and **Enable**. Note: The system will restart to change the TPM State.

**Pending TPM operation**

Displays any TPM-related operation by the system.

The following are informational status messages that indicate the current TPM State:

**TPM Enabled Status**

**TPM Active Status**

**TPM Owner Status**

## ▶Intel TXT(LT) Configuration

**Secure Mode Extensions (SMX)**

This feature can be configured if it is supported by the processor. Enable this feature to activate Intel TXT, below. The options are Enabled and **Disabled.**

**Intel TXT (LT) Support**

Intel TXT (Trusted Execution Technology) helps protect against software-based attacks and ensures protection, confidentiality and integrity of data stored or created on the system. The options are Enabled and **Disabled.**

## ▶AMT Configuration

**Un-Configure AMT/ME**

This option allows the user to un-configure the Management Engine (ME) without a password. The options are Enabled and **Disabled.**

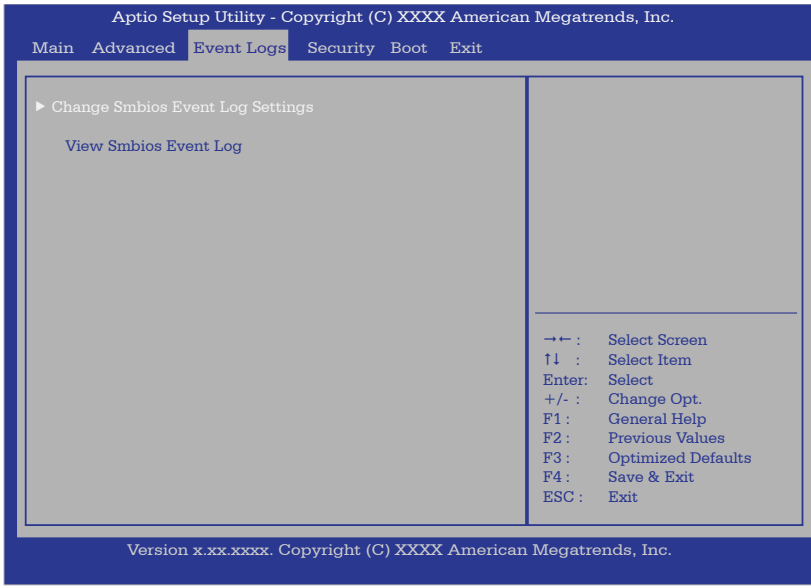
**WatchDog Timer**

Allows AMT to reset or power down the system if the operating system or BIOS hangs or crashes. The options are **Disabled**, and Enabled.

**OS WatchDog Timer / BIOS WatchDog Timer**

These options appear if Watch Dog (above) is enabled. This is a timed delay in seconds, before a system power down or reset after a BIOS or operating system failure is detected. Directly enter the value, in seconds.

## 4-4 Event Logs


Aptio Setup Utility - Copyright (C) XXXX American Megatrends, Inc.
Main Advanced Event Logs Security Boot Exit
Change Smbios Event Log Settings
View Smbios Event Log
→←: Select Screen
↑↓ : Select Item
Enter: Select
+/- : Change Opt.
F1 : General Help
F2 : Previous Values
F3 : Optimized Defaults
F4 : Save & Exit
ESC : Exit
Version x.xx.xxxx. Copyright (C) XXXX American Megatrends, Inc.

**Smbios Event Log**

Change this item to enable or disable all features of the Smbios Event Logging during boot. The options are **Enabled** and Disabled.

**Erase Event Log**

This option erases all logged events. The options are **No**, Yes, Next reset and Yes, Every reset.

**When Log is Full**

This option automatically clears the Event Log memory of all messages when it is full. The options are **Do Nothing** and Erase Immediately.

**MECI**

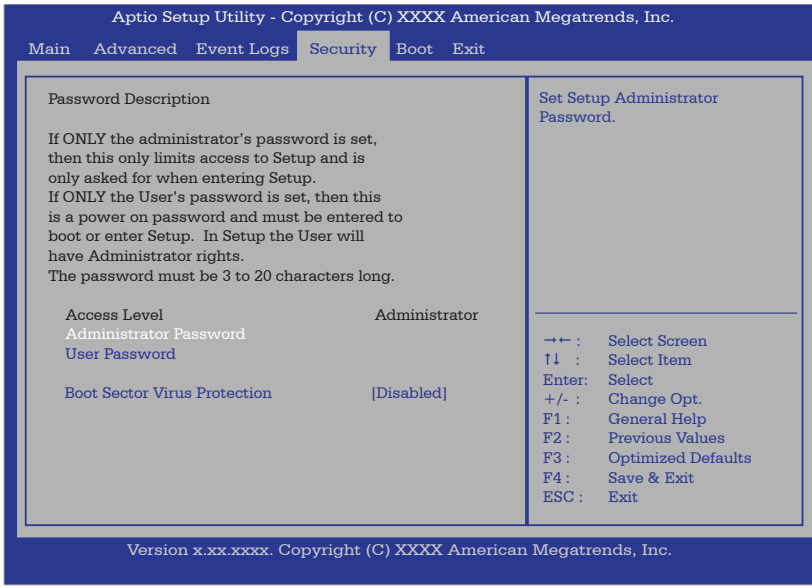
The Multiple Event Count Increment (MECI) counter counts the number of occurences a duplicate event must happen before the MECI counter is incremented. This is a numeric value.

**METW**

The Multiple Event Time Window (METW) defines number of minutes must pass between duplicate log events before MECI is incremented. This is in minutes, from 0 to 99.

## 4-5 Security Settings

The AMI BIOS provides a Supervisor and a User password. If you use both passwords, the Supervisor password must be set first.


Aptio Setup Utility - Copyright (C) XXXX American Megatrends, Inc.
Main
Advanced
Event Logs
Security
Boot
Exit
Password Description
If ONLY the administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup.
If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights.
The password must be 3 to 20 characters long.
Access Level
Administrator
Administrator Password
User Password
Boot Sector Virus Protection
[Disabled]
Set Setup Administrator Password.
→← : Select Screen
↑↓ : Select Item
Enter: Select
+/- : Change Opt.
F1 : General Help
F2 : Previous Values
F3 : Optimized Defaults
F4 : Save & Exit
ESC : Exit
Version x.xx.xxxx. Copyright (C) XXXX American Megatrends, Inc.

- If the Administrator password is defined ONLY - this controls access to the BIOS setup ONLY.
- If the User's password is defined ONLY - this password will need to be entered during each system startup or boot, and will also have Administrator rights in the setup.
- Passwords must be at least 3 and up to 20 characters long.

**Administrator Password**

Press Enter to create a new, or change an existing Administrator password.

**User Password:**

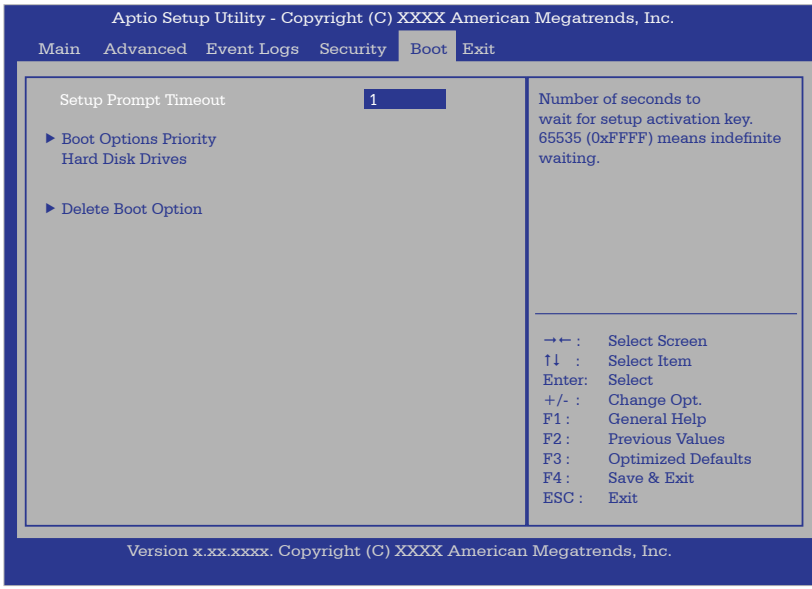
Press Enter to create a new, or change an existing User password.

**Boot Sector Virus Protection**

When Enabled, the BIOS displays a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive. The options are Enabled and **Disabled**.

## 4-6 Boot Settings

Use this feature to configure Boot Settings:




**Setup Prompt Timeout**

Number of seconds to wait for setup activation key. Enter 65535 (0xFFFF) to wait indefinitely.

### ▶Boot Options Priority

This feature allows the user to specify which devices are boot devices and the order of priority from which the systems boots from during startup.

**Boot Option #1, Boot option #2, Boot Option #3, etc**

The settings are **Built-in EFI Shell**, [any detected boot device] and Disabled.

**Hard Disk Drives**

Boot Option #1, Boot option #2, Boot Option #3, etc

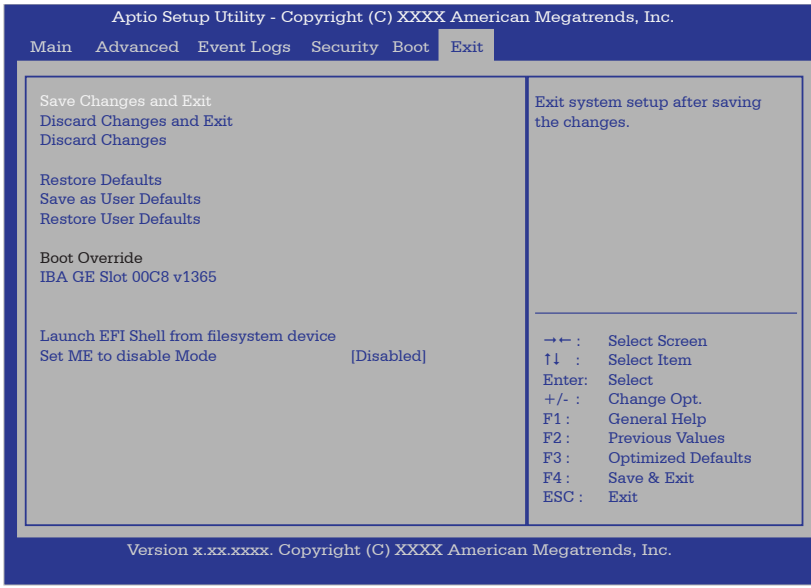
### ▶Delete Boot Option

This feature allows the removal of a boot device and the order of priority from which the systems boots from during startup.

- 3rd Boot Device - [SATA: XXXXXXXXX]
- 4th Boot Device - [Network: XXXXXXXXX]

## 4-7 Exit Options

Select the Exit tab from the BIOS Setup Utility screen to enter the Exit BIOS Setup screen.


Aptio Setup Utility - Copyright (C) XXXX American Megatrends, Inc.
Main Advanced Event Logs Security Boot Exit
Save Changes and Exit
Discard Changes and Exit
Discard Changes
Restore Defaults
Save as User Defaults
Restore User Defaults
Boot Override
IBA GE Slot 00C8 v1365
Launch EFI Shell from filesystem device
Set ME to disable Mode [Disabled]
Exit system setup after saving the changes.
→← : Select Screen
↑↓ : Select Item
Enter: Select
+/- : Change Opt.
F1 : General Help
F2 : Previous Values
F3 : Optimized Defaults
F4 : Save & Exit
ESC : Exit
Version x.xx.xxxx. Copyright (C) XXXX American Megatrends, Inc.

### Save Changes and Exit

When you have completed the system configuration changes, select this option to leave the BIOS Setup Utility and reboot the computer, so the new system configuration parameters can take effect. Select Save Changes and Exit from the Exit menu and press <Enter>.

### Discard Changes and Exit

Select this option to quit the BIOS Setup without making any permanent changes to the system configuration, and reboot the computer. Select Discard Changes and Exit from the Exit menu and press <Enter>.

### Discard Changes

Select this option and press <Enter> to discard all the changes and return to the AMI BIOS Utility Program.

### Restore Defaults

To set this feature, select Restore Defaults from the Exit menu and press <Enter>. These are factory settings designed for maximum system stability, but not for maximum performance.

**Save As User Defaults**

To set this feature, select Save as User Defaults from the Exit menu and press <Enter>. This enables the user to save any changes to the BIOS setup for future use

**Restore User Defaults**

To set this feature, select Restore User Defaults from the Exit menu and press <Enter>. Use this feature to retrieve user-defined settings that were saved previously.

**Boot Override**

Set this feature to override a previously defined boot device. The available devices will be listed below.

**Launch EFI Shell from filesystem device**

This feature when initiated, will attempt to launch an EFI shell application (shellx64.efi) from one of the available file system devices. Press <Enter> to activate.

## ▶Set ME to Disable Mode

Select this feature and choose Enabled to run Management Engine (ME) recovery mode on reboot. The options are **Disabled** and Enabled.

# Appendix A

# POST Error Beep Codes

This section lists POST (Power On Self Test) error beep codes for the AMI BIOS. POST error beep codes are divided into two categories: recoverable and terminal. This section lists Beep Codes for recoverable POST errors.

## Recoverable POST Error Beep Codes

When a recoverable type of error occurs during POST, BIOS will display a POST code that describes the problem. BIOS may also issue one of the following beep codes:

1 long and two short beeps - video configuration error

1 repetitive long beep - no memory detected

1 continuous beep with the front panel Overheat LED on - system overheat

8 short beeps - display memory read/write error

## Notes

# Appendix B

# Software Installation Instructions

## B-1 Installing Drivers

After you've installed the Windows Operating System, a screen as shown below will appear. You are ready to install software programs and drivers that have not yet been installed. To install these software programs and drivers, click the icons to the right of these items.

SUPERMICRO X9SCV-Q Motherboard Drivers & Tools (WinXP)
SUPERMICRO
Drivers & Tools
Intel QM67 PCH Chipset
X9SCV-Q
SUPERMICRO Computer Inc.
Intel Chipset INF files
Intel Graphics Media Accelerator Driver
Microsoft .Net Framework
Realtek High Definition Audio Driver
LSI MegaRAID Storage Manager
Intel Rapid Storage Technology
Intel Management Engine
Intel PRO Network Connections Drivers
Trusted Platform Module Driver (Optional)
SUPERMICRO Supero Doctor III
Build driver diskettes and manuals
Browse CD
Auto Start Up Next Time
For more information, please visit SUPERMICRO's web site.

**Driver/Tool Installation Display Screen**

**Note**: Click the icons showing a hand writing on the paper to view the readme files for each item. Click a computer icon to the right of an item to install an item (from top to the bottom) one at a time. After installing each item, you must re-boot the system before proceeding with the next item on the list. The bottom icon with a CD on it allows you to view the entire contents of the CD.

## B-2 Configuring Supero Doctor III

The Supero Doctor III program is a Web-base management tool that supports remote management capability. It includes Remote and Local Management tools. The local management is called the SD III Client. The Supero Doctor III program included on the CDROM that came with your motherboard allows you to monitor the environment and operations of your system. Supero Doctor III displays crucial system information such as CPU temperature, system voltages and fan status. See the Figure below for a display of the Supero Doctor III interface.

**Note 1**: Both default user name and password are ADMIN.

**Note 2**: In the Windows OS environment, the Supero Doctor III settings take precedence over the BIOS settings. When first installed, Supero Doctor III adopts the temperature threshold settings previously set in the BIOS. Any subsequent changes to these thresholds must be made within Supero Doctor, since the SD III settings override the BIOS settings. For the Windows OS to adopt the BIOS temperature threshold settings, please change the SDIII settings to be the same as those set in the BIOS.

**Supero Doctor III Interface Display Screen-I (Health Information)**

**Supero Doctor III Interface Display Screen-II (Remote Control)**

File Edit View Favorites Tools Help
Super Doctor III
Remote Management
SUPERMICRO
ADMIN
System Info. | Health Info. | Performance | Remote Control | Configuration | Administration | Systems Management | Report | Help
Remote Control
Graceful Power Control
Open Console
Power Control
Enter
Graceful power control
Supero Doctor III allows a user to inform the OS to reboot or shut down within a specified time (the default is 30 seconds). Before the system reboots or shuts down, it's allowed to cancel the action.
Requirements
Keep Supero SD3Service Daemon running at all times on this system.
Provide TCP/IP connectivity.
Power control

**Note**: SD III Software Revision 1.0 can be downloaded from our Web site at: ftp://ftp.supermicro.com/utility/Supero_Doctor_III/. You can also download SDIII User's Guide at: http://www.supermicro.com/PRODUCT/Manuals/SDIII/UserGuide.pdf. For Linux, we will still recommend that you use Supero Doctor II.

## Notes

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